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# A NETWORK PARADIGM OF COMMUNICATION RESEARCH

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## ABSTRACT

Our contemporary media and communication media ecology is a highly networked one where users and producers of information create give rise to diverse flows of communication. It is a media ecology is distinct from that of the mass media age where a small number of large media outlets disseminated one-way flow of messages to mass audiences. This conceptual article discusses the notion of a networked media ecology and explores 'network paradigm' as a research framework as proposed by Manuel Castells and Gustav Cardoso. Drawing upon the historical development of networks as a organizing framework in the field of media and journalism, the papers argues for the relevance of a network paradigm in discussing contemporary global user-driven news ecologies. Finally, the paper looks at how a network paradigm can be used to discuss agenda-setting structures in contemporary news ecologies.

**Keywords:** *Network society, network paradigm, communication model, agenda setting, media ecology, news ecology*

## NETWORK PARADIGM OF COMMUNICATION

Media and communication in the 21<sup>st</sup> century is characterized by a new media ecology that is distinct to the media ecology of the mass media age where a small number of large media outlets disseminated one-way flow of messages to mass audiences. This new media ecology is characterized by rapid development in broadband and satellite technologies, and increased user participation in the production and dissemination of mediated messages. A fundamental aspect of these technologies and their uses is the centrality of networks that provide connection between media outlets and media users (i.e. Internet Service Providers (ISP's), satellite television service providers, telecommunications corporations), as well as among media users (i.e. social networking sites) and among media outlets (newsfeeds between

news outlets and news services). Another fundamental aspect of communication and media technologies in the 21<sup>st</sup> century is their unarguable significance to virtually every aspect of human civilization, including journalism. These technologies not only enable everyday tasks in many realms of human activity, but in many cases they also facilitate the creation and maintenance of networks of information flow between and among organizations, groups and individuals.

In a book on social aspects of new media, Jan Van Dijk (2006: 24) explains that a ‘network’ is “a collection of links between elements of a unit,”. Social networks link individual persons or groups through communicative interactions. Technical networks which include the abovementioned technological infrastructure facilitate interaction within social networks. “When [technical networks] are filled with symbols and information to connect human senders and receivers, they become media networks,” (van Dijk 2006: 25). Increasingly, communication activities are facilitated by media networks.

Manuel Castells, in his seminal work on ‘network society’ argues that a networking logic permeates all aspects of society. Drawing upon Castells’ depiction of the interconnectedness of geographically discontinuous spaces and people, the network society can be described as a mega-global network connecting nodes between and within national borders via flows of interaction. On an operational-level, Castells’ ‘network society’ refers to the mode of production and interaction organized around a shared ‘code’ (i.e. shared languages or interoperable systems such as digital technology or the Internet), currently characterizing dominant functions and processes (i.e. the economy, governance, politics, journalism) affecting all of humanity, whether connected to the network, or not. Despite the near-universal impact of the network society, inclusion or connection to the network society is preconditioned by access to network technology such as the Internet, or satellite television (Castells 2000b). The availability of such technology is of course dependent upon technological infrastructure such as telecommunications, broadband, and satellite networks. These networks facilitate the flows of interaction among nodes connected to them.

## **NETWORKED COMMUNICATION MODEL VS. MASS COMMUNICATION MODEL**

In writing on communication models in informational societies, Gustav Cardoso (2008) argues that the current model of communication is a ‘*networked communication*’ model. As opposed to the *mass communication* model built around centralized media systems and mass audiences, the ‘networked communication’ model is driven by the use of convergent technologies to connect to existing networks, or to create new networks. Cardoso stresses the importance of viewing the interaction between media and society through a network paradigm because the social organization of media and communication, as well as individual and social use of media technologies, is driven by a networking logic where usage of different media forms are combined to achieve desired objectives:

Because technological development and the appropriation of the media place in coexistence mass media, interpersonal communication media and media that combine the two, such as the Internet, the principle characteristic that pervades the whole sphere of communication is that of networking (Cardoso 2008: 613).

Cardoso’ suggestion for a networked model of communication is pertinent to conducting media and communication research in societies that mirror Castells’ aforementioned network

society, as it presents researchers with a theoretical framework with which to research and theorize about social phenomena in the network society.

### **Theory and the Prevailing Media Ecology**

As a number of scholars agree, new network technologies have facilitated new flows of communication that defy the organizing logic of mass communications and mass media (e.g. Bennett & Iyengar 2008; Bruns 2005; Cardoso 2008; Chaffee & Metzger 2001).

Although the field of media and communication is replete with established theories that have been well developed and supported by empirical research, for example agenda setting theory or critical theory, these theories have largely been developed to understand or critique communication flow in mass media environments. However, as explained earlier, new forms of networked and user driven technologies have altered the organization of communication flows in multiplatform and user-driven media ecologies.

### **Network Paradigm as Research Framework**

The network paradigm does not wholly negate the relevance of mass media forms. Rather, it presents a methodological framework that recognizes the evolution of media use and communication flows in a multiplatform and networked media ecology in which various forms of media coexist. In his book on competition and coexistence between new and traditional media, John Dimmick (2003) argues that mass media forms do not simply disappear with the emergence of online and networked media forms. Instead, both established and emerging media forms continuously evolve and adapt in order to coexist in a common media ecology, much in the same way that different biological species adapt and coexist with others in a shared ecosystem. A network paradigm of communication simply recognizes the growing influence of user-driven, networked forms of communication upon both interpersonal and mass communications.

For example, Cardoso argues that convergence of new and traditional news media result in a “coexistence” (p. 617) of various news models. Professional journalists produce news alongside citizens. Traditional segmentation of news content (i.e. international news, sports, law and order) continues alongside a new practice of users actively combining different news outlets and sources in their news repertoire. News has also gone beyond the dialectic between opinion (i.e. editorial) and fact, to become an amalgamation with multiplied forms of producers and multiplied models of news which are “diversified in terms of perceived quality, quantity of news displayed, scope of themes chosen, type of sources, etc” (Cardoso 2008: 618).

Extending the logic of media coexistence to theory-building, I argue that a networked communication paradigm recognizes the implications of proliferating forms of user-driven networked media, whilst simultaneously acknowledging the continued relevance of institutionally-driven media outlets (i.e. mainstream news organizations).

### **PRECURSOR TO CONTEMPORARY NETWORKED COMMUNICATION FLOWS**

Although the Castell’s network society largely describes postmodern informational societies, contemporary globalization and networks that link nodes in distant locations are not historically unprecedented (see Volkmer 2003; Winseck & Pike 2007).

David Domingo and colleagues (Domingo et al. 2008) contend that information and news has always been passed on via networks. In simple societies, news stories were disseminated in personal networks. Such news stories tended to be highly dynamic and dependent on individual interpretation and contexts, and unmediated by an external channel or carrier such as journalists, editors or producers. They argue that new forms of transmitting information in unmediated public communication resemble the personal networks of simpler societies.

The phenomenon of inter-media networks and links owes precedence to precursors such as the news wire services of 19<sup>th</sup> century European colonial powers, satellite news feeds and early electronic news bulletins in the 20<sup>th</sup> century.

News agencies, begun as wire services in the mid 19<sup>th</sup> century, treat news as a 'commodity' (see Boyd-Barrett & Rantanen 1998; Palmer 1998; Winseck & Pike 2007) that needed to be speedily transported, simultaneously creating and meeting demand for the latest information on current affairs and events. Transcontinental wire cables networked European traders and colonial masters to cross-continent trading posts and colonies (Winseck & Pike 2007). In the mid 20<sup>th</sup> century, to address the imbalance of news flow from first world to third nations, institutionalized partially by Western dominance of wire news services, regional networks of news exchange were established, linking news outlets within and between the Americas, Asia, Africa, Europe, and the Middle East (Hjarvard 1998). Along with these news exchange networks, the use of satellites also facilitated a transnational flow of news, supplementing existing telegraph, wire, and cable networks (Volkmer 2003). These technological networks linked national broadcast centres to international news networks such as CNN, and linked national news outlets to international news services (e.g. Reuters), facilitating timely transnational flows of news. The advent of the Internet and the World Wide Web in the late 20<sup>th</sup> century intensified these existing networks by linking greater numbers of news outlets to the transnational public sphere. More recent developments in network interactivity via the Internet is expanding the news sphere to include networked user-driven platforms (e.g. user generated content, blogs, news recommendation engines) allowing media users to participate in the production and dissemination of information, and to do so with speed and immediacy (i.e. see Beckett 2008; Bruns 2003; Deuze, Bruns, & Neuberger 2007; McIntosh 2008; McKinley 2001; Thorson 2008), even if it is at the expense of comprehensive and accurate contextualization of events (e.g. de Beer 2004; Sreberny & Paterson 2004).

While online technologies that have become synonymous to network society and new forms of media may be new, the essence of network links and the speed of communication associated with these links, predates these labels and current technologies. Historically, humans employ whatever tools and methods at their disposal to disseminate and to find news in as immediate a way as possible. Hence, Julius Caesar's *daily* postings of official events outside Rome's Senate building in A.D. 59 (de Beer 2004); mid 19<sup>th</sup> century European traders' use of transcontinental cable-wire services (forerunners to modern international news agencies) to keep abreast of international trade developments (Winseck & Pike 2007); and recent live satellite and online feeds used by international news broadcasters. These are all attempts to make use of existing networks to link producers and users of information via dependable and speedy flows of communication.

### **Network Temporality and Mediatization of Events**

More recent networks, not only link nodes of news producers and consumers, they also link these nodes speedily in what Hassan (2007) calls 'network time', a temporality removed from

the daily clock-time or movements of the sun that organizes the daily physical life of these networks' human nodes . The interactive connectivity of network technologies facilitates the creation of "alternative times and spaces where alternative views can be projected and alternative politics developed...where ideas are formed and discussed and political action is translated into agency in the physical realm" (Hassan 2007: 56).

With regards to public and policy agendas, the dissemination of news and opinions in network time can also affect an intensified 'mediatization' of unfolding current events when media reporting and public discussions impact upon the continuous development of ongoing crises (Cottle 2006) or events (McKinley 2001) , implicating the involvement of otherwise unassociated journalists and media users, and further intensifying global interconnectedness. This network mediatization of events is likely more pronounced in crisis situations as people connect to networks as a means to obtain and the disseminate critical information, as compared to the pace of networking during non-crisis daily news events. I would argue that multiple temporalities frame the current news environment where different temporalities structure each news event, each news participant (user or producer), and each collective public. Time in the networked news sphere is contextual (Adam, 1998). To borrow from Castells' definition of 'timeless time', networked mediatization of events "introduce systemic perturbation in the sequential order of phenomena" (Castells 2000b: 494).

Alongside the technological links between nodes, a networked temporality structures the flow of interaction in media networks. The very idea of interactivity that allows media users to change the content of media, or to communicate via technological medium rests upon a temporality that negates the need to follow a fixed schedule. Such a temporality allows the flow of information either live or on-demand, and the flow of communication either in real-time or asynchronously, but always, in both cases, as speedily as possible. (i.e. see Castells 2000b; Hassan 2007; Tomlinson 2007)

## **NEWS AND THE NETWORK PARADIGM: RISE OF A NETWORKED, USER DRIVEN NEWS ECOLOGY**

Not all studies explicitly refer to the online news environments under study as networks. However, by readily identifying news with the Internet- that *international network* of computers, these studies situate themselves in the network paradigm. That is not to say that all research associated with the Internet necessarily subscribe to a networked model of communication, but rather to highlight the centrality of both technical and human networks to the production and dissemination of news on the Internet. In general, news and journalism research fitting the network paradigm can be divided into two overlapping categories: Those theorizing or conceptualizing news and information networks, and those that analyze news processes and practices within these networks. And within both categories, network links can refer to either social links between individuals or groups of people, as well as technical links between technology such as computers, satellites or software.

There are numerous ways of explicating news and journalism since the advent of interactive online networks of media and communications. They are all built around the idea of the coexistence of different general communicational models (interpersonal, mass and networked communication) and more specifically, different news models based upon these communicational models (i.e. mass media news, participatory news).



Whichever way researchers opt to conceptualize contemporary forms of news and journalism, the network paradigm remains an overarching principal. While network journalism and networked journalism openly refer to the idea of *network* as an organizing principal, current forms of citizen journalism and other user-driven media forms, as well as mainstream journalism also maintain ever growing presences in intertwining networks powered by digital broadband, telecommunications and satellite technologies.

Media networks, broadband in particular, facilitate collaborative and participatory journalism among those so inclined. Regardless of the underlying principle or producer behind news stories, it is again the abovementioned media networks that present news users with various pull and push options to access the news.

Pertinently, these contemporary forms and processes of news are pre-conditioned upon access to global media networks. As news seekers and news producers connect to these media networks to push and pull news stories, they facilitate the networking of news outlets, sources, producers, and users into a networked ecology of news production and use. Insofar as news is intertwined with political communication and the public sphere, the advent of satellite broadcasting and broadband networks also facilitate the public sphere at local, national as well as sub- and supra-national levels (see Butsch 2007a 2007b; Castells 2008; Day & Schuler 2004; Gastil 2008; Gordon 2007; Volkmer 2002, 2003). The Internet, in particular, networks all forms of news technologies and public communication onto one platform. For example, television and radio news can be broadcast via the Internet. Broadcast and print media maintain web sites alongside dedicated online news sites, blogs, user news sites, and social media sites, facilitating the flow of news and of discourse. Thus the Internet and broadband networks, together with aforementioned satellite and telecommunication networks are the structural foundations of this networked news ecology.

### **A Global Networked Media Ecology**

Ingrid Volkmer contends that the 'network' is a new globalization paradigm characterized by diversity of actors and links, distinct from McLuhan's homogenized global village. With regards to political communication and the public sphere, the advent of satellite broadcasting and broadband networks with "fragmented globally operating channels" creates a "transnational political news sphere" (Volkmer 2003).

More recent developments in social bookmarking and content interactivity among news audiences add a new dimension to this news sphere where networked users and producers can interact and potentially negotiate the news agenda in a transnationally networked media ecology. While the earlier news sphere tended to be self-referential, revolving around a clustered network of transnational news outlets that tended to surveill each others' agendas, the newer networked media ecology has the potential to facilitate the flow of information from formerly unrecognized sources of news, namely media users with an interest in sharing news and views.

The networked news ecology is characterized by issue-related 'microspheres' made up of networks of information flow among key observers and actors concerned with particular issues. These microspheres are temporally differentiated according to unstable and stable times, where in unstable or conflicts times, a torrent of information flow around the microsphere as people seek to obtain and, increasingly with networked technologies, broadcast information. (see Schneider & Foot 2005's conceptualization of web spheres; see also Volkmer 2003).

Drawing upon the idea of 'web spheres' (Schneider & Foot 2005), the 'networked news ecology' can be understood as news-related web sites, web pages, as well as news-related texts, images and sounds found on the web, as well as offline broadcast and print news that are mentioned online or are otherwise connected to a larger network of news outlets with online presence. Classifying these sites and contents according to producer-type, however non-mutually-exclusive they may be, gives us working categories such as news media sites, social news sites, and blogs. Although widely available outside of the Internet via satellite broadcasting and national media's use of news services, news is most extensively accessible via the Internet. In addition to fully online news sites, dedicated online editions of newspapers and magazines, broadcaster web sites, and antiquated 'shovelware' (online replica of print news articles), live streaming television news as well as news videos-on-demand (VOD) also feature on the Internet. A defining feature of news online is the level of participation it allows to non-media producers, unmatched by offline television, radio or print media. Besides social news sites and blogs, online chats and comment threads allow news consumers to engage with the news by contributing to the narratives constructing news issues.

Thus the global networked media ecology is not only a site of news dissemination and consumption, but also a participatory sphere of discourse where the news is shaped not only by news producers (whether professional or citizen journalist), but even by individual comment posts (whether posted by an individual person, a group of people, or an organization). Even in situations where network connection is subject to political forces blocking Internet content or electronic broadcasts deemed threatening to the interests of ruling parties, networked discourses can be initiated in various ways. For example, technologically savvy users have various ways to go around blockades. Furthermore, so called offensive content is usually only traced after it has been broadcast to and reached by some members of the networked public. However, these subversive flows notwithstanding, hawkish monitoring of networked communications allows authoritarian governments to control conversations and discourse among residents and visitors, stopping the inflow of offensive narratives and the outflow of dissident narratives.

This complexity of online public discourse raises questions of how the flows of news and opinions impacts upon news narratives. I argue that narratives are shaped by the discursive emphasis on particular attributes of an issue, and the framing of these attributes.

The impact that different flows of news, opinions and narratives have on one another can be likened to the transfer of salience from one agenda to another, as explicated by the concept of agenda-setting. Agenda-setting theory's central hypothesis is that news agenda influences public agenda. In the networked media ecology, this hypothesis is somewhat simplistic when we consider the myriad directions of flows and impacts of news and opinions, as well as the blurring distinction between news user and news producer. Furthermore, the agenda-setting research tradition is largely confined to isolated (i.e. not networked) national or local settings and mass media contexts, whereas the global networked news ecology is transnational and networked in nature. In addition to mass forms of communication the current news sphere also encompasses interpersonal, niche and network forms of communication.

## **GAP IN LITERATURE: THE AGENDA-SETTING STRUCTURES OF THE NETWORKED NEWS ECOLOGY**

Theoretical literature are concerned with fitting current news practices into news models (i.e. Asal & Harwood 2008; Beckett 2008; Bruns 2003; Deuze 2003; Heinrich 2008; Livingston & Bennett 2003; McIntosh 2008; Singer 2006; Thorson 2008). Literature looking at processes and practices in networked news emphasize the functions and roles of news users and producers (Deuze, et al. 2007; Domingo, et al. 2008; Kovacic & Erjavec 2008; McIntosh 2008; Quandt 2008; Quandt, Löffelholz, Weaver, Hanitzsch, & Altmeyen 2006; Sunstein 2004; Thelwall 2008). Literature analyzing or predicting the consequences of current transformations in news tend to either highlight the fragmenting/democratizing effects of the news diversity, or the homogenizing effect of new news processes and models (i.e. Allan 2005; Althaus & Tewksbury 2002; Ben-Porath 2007; Beyer 2006; Boczkowski & de Santos 2007; Castells 2000a; Deuze 2003; Greer & Mensing 2004; Habermas 2006; E. Huang, Rademakers, Fayemiwo, & Dunlap 2004; J. S. Huang & Heider 2007; Machill & Beiler 2009; Örnebring 2008; Pew Research Center's Project for Excellence in Journalism (PEJ) 2008; Quandt 2008; Quandt, et al. 2006; Rosenberry 2005; Sunstein 2004). While some attempts have been made at relating either networked news models, or their practices and process, with news agendas (i.e. Althaus & Tewksbury 2002; Baum & Groeling 2008; de Waal & Schoenbach 2008; Drezner & Farrell 2004; Gordon 2007; Groshek 2008; Lee, Lancendorfer, & Lee 2005; Min 2004; Singer 2006; Sweetser, Golan, & Wanta 2008), little attention has been given to the networked news sphere's agenda-setting structure.

Up until recently, the flow of information between news outlets and their audiences have been largely theorized as a uni-directional flow involving media as the agenda-setter and news audiences as "passive recipient[s] of news" (Bruns 2003: 35). In light of recent opportunities for news users to participate in news production and dissemination, the notion of a one-way flow of news agenda needs to be reconsidered. The idea of a networked news sphere with multiple producers of news and information raises questions regarding how various issues and their diverse narratives compete for legitimacy and supremacy on the agenda of the networked news sphere.

The focus of this discussion is not so much the differences in news agenda among news outlets or between online and offline news (i.e. Althaus & Tewksbury 2002; Groshek 2008; Roberts, Wanta, & Dzwo 2002; Song 2007; Sweetser, et al. 2008) or with the level of interactivity afforded to users (i.e. Beyer 2006; Domingo, et al. 2008; Quandt 2008), but rather with the implication of networked forms of journalism upon the flow news agenda and the wider public sphere.

### **Challenges to Agenda Setting in User-Driven and Networked Media Ecologies**

The transnationalization of the public sphere in the late 20<sup>th</sup> century forced national media's role as gatekeepers to contend with a parallel and influential inflow of information from transnational news outlets (Volkmer 2003). The increasingly networked public sphere raises similar questions regarding the gatekeeping and agenda-setting roles of traditional news outlets in the face of new forms of news (see Sunstein 2004; Thorson 2008). While the main issue besetting earlier transnationalization of the news sphere was the dialectic between supra- and sub- national contexts, this formerly dichotomous dialectic is now compounded



by the potential diversity of agendas that can emerge from such diverse and increasingly intertwined platforms, or medium, of news (Cardoso 2008).

The quandary regarding agenda-setting in the networked news sphere mainly rests upon three matters: 1) the blurring distinction between news users and producers, 2) the transformation in user-producer interactions, and 3) the overlap between news agenda and public agenda.

To summarize, where once there was minimal interaction between and within news audiences and news outlets, the new networked media ecology has spawned greater interaction among audiences and outlets. Thus where once it made sense to assume that the news media could indeed set the public agenda, but not vice versa, network forms of journalism muddle the formerly clear distinction between news agenda and public agenda. These developments question the efficacy of studying the influence of news agenda on public agenda. Instead, they give rise to questions concerning how these agendas interact to form new narratives.

### **Distinguishing between the Media and the Public**

Alongside debatable definitions of 'public agenda', the discussion of agenda-setting effects online raises the fundamental question of how to define 'media'. The very crux of agenda-setting theory is after all, the distinction between media and public, giving sense to the idea that one entity (the media) can influence the other (the public).

While it is difficult to argue against the idea that the web sites of newspapers or television news channels, or even self-proclaimed alternative news sites are indeed 'media', other sites offering information and views may be harder to categorize. Blogs, social media sites, online chats, comment threads, user-generated content on video-sharing sites all thread the fine line between 'media' and 'public communication'. In his book on media discourse and media texts, Donal Matheson (2005) suggests:

... one area where there is good evidence for a significant departure from existing media practices is the relationship set up between the producer and consumer of the text. New critical terms have in fact been required to describe those we call 'audiences' or 'viewers' or 'readers' (Livingstone and Lievrouw 2002). Among others, theories of interactivity and online community have been developed to account for the textual practices engaged in by media users and theories of networked individualism and cosmopolitan societies invoked to account for the impact of these textual practices on social (see Further reading). While digital media by and large reproduce the corporate structures of offline media, they do so according to different textual dynamics." (Matheson 2005: 158)

An alternative and feasible strategy of dealing with the media/non-media status of online public communication platforms is to simply do away with such categories and to erase the line dividing media from public or audiences. Instead of looking at different media and agenda-setting effects, researchers should be looking at the issues and narratives themselves, and the range of usual actors within the issue microsphere. For example, Schneider & Foot's (2005) suggestions for characterizing a 'web sphere' (clusters of web sites focusing on the same theme or issue) according to predictable producers and analyzing web sphere content

using discursive research methods is a useful guide for dealing with agenda-setting effects among hard-to-categorize news and communication platforms.

This suggestion is not merely for the researcher's convenience, but echoes current patterns of news use. As Cardoso (2008) points out, media users in general, and news users in particular, do not simply stick to one platform or medium to get their news, rather they combine a range of news sources:

As social beings, we do not use only one single medium as a source of communication, information, action and entertainment. We combine them – we network them... The practices of social agents in the network society are practices that combine media in the endeavor to obtain results. They are not isolated uses of a specific medium. We should look at the media not as isolated technologies, but rather as objects of social appropriation that are diversified and combined depending on the objectives set to reach by the user. (Cardoso 2008: 591-597)

## CONCLUSION

As illustrated by the above discussion on how we may conceptualize media agenda vis-à-vis public agenda, scholarly inquiry within a network paradigm brings to fore the need to rethink constructs usually taken for granted when dealing with long-established theories like Agenda Setting. And therein lies the importance of reassessing current media ecologies against theoretical frameworks that we use in research and scholarly discourse. It is not so much to highlight the relevance and one paradigm over other paradigms, but to help us delve beyond surface and simplistic definitions of every day concepts in order to be better prepared to examine the world around us. The network paradigm as advanced by scholars like Castells and Cardoso, and explicated here, is just one framework for examining media and communication in a highly networked and digital media ecology. Here, it has proven useful for questioning direction and elements in agenda setting. Other frameworks may prove equally useful for similar scholarly discourse.

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