

News Ecosystems

C.W. Anderson

INTRODUCTION

This chapter discusses the notion of ‘getting outside’ the newsroom in the digital age, inspired by Zelizer’s argument that much of what matters about journalism today does not take place in the newsroom itself (Zelizer 2004). It begins with a brief overview of the different ways that scholars have understood this process of getting inside and outside newsrooms. The second part of the chapter argues that we must also consider an additional road forward—the ecosystemic approach to journalism research. It begins with a general overview of the increasing prevalence of the phrase ‘news ecosystem’ in the digital era. It then discusses two uses of the term ‘ecosystem’ in the media studies literature, before outlining several examples of research on emerging news ecosystems, each which draws upon a different, if unacknowledged, theoretical tradition.

In that way, this chapter marks an attempt to think through two different meanings

of the words ‘news ecosystem,’ and relate those meanings to possible roads forward for journalism research. I call these approaches the ‘environmental’ and the ‘rhizomatic’ approaches. While I think both approaches are intellectually and normatively useful, there is a preference here for more rhizomatic methods: because while the rhizomatic approach has become part and parcel of the current wave of ‘big data analysis’ (Wu et al. 2011) the environmental approach increasingly seems to be applied to more traditional forms of journalism studies research. And so in the pages below I want to argue that the rhizomatic approach ought to be more rigorously applied to journalism studies, and also to argue that there needs to be more of a qualitative, ethnographic element to these largely data-driven studies.

I should note from the beginning that this conceptual difference between rhizomatic and environmental approaches was not coined by me; indeed, it is a distinction that has been prevalent in certain domains of materialist

media theory for over a decade. Rather, my contribution in this chapter is to take these two approaches, describe their major areas of concern and disagreement, and apply them to journalism studies. I also want to provide a quick terminological clarification which may help orient readers coming to these topics for the first time. The theorists I discuss here are not always themselves careful about the labels they provide for their conceptual terms; they often use ‘environment,’ ‘ecology,’ and ‘ecological’ interchangeably. In this chapter, I use ‘ecological’ to refer to both major approaches I discuss here insofar as they are similar in a number of ways. The older body of Neil Postman/Marshall McLuhan theory I refer to as an ‘environmental’ perspective, while I label the newer body of research a ‘rhizomatic’ approach.

INSIDE AND OUTSIDE ‘THE NEWSROOM’

In her 2004 book *Taking Journalism Seriously: News and the Academy*, Barbie Zelizer took ethnographic newsroom research to task for what she called its ‘lack of attention’ to the many varieties of journalism that exist outside the boundaries of the traditional news institution (Zelizer 2004). We can see the similarity between this and Cottle’s proposal that

In [the new] interpenetrating [digital] communications environment news production no longer takes place within any one organizational centre of production but has become increasingly dispersed across multiple sites, different platforms and can be contributed to by journalists based in different locations around the world or on the move. (Cottle 2007: 8)

In essence, the goal of all news research has been to answer the following three linked questions: why is news made the way it is? what impact does news have on the world, on readers, or both? And finally, how do these

news production and consumption practices contribute, in normative terms, to the maintenance of a healthy democracy? Newsroom based approaches, critics contend, ignore the external structural factors that contribute to patterns in news production, pay too little attention to the act of consumption, and neglect to place both production and consumption patterns, as well as newsrooms themselves, into historical context.

The argument that ethnography or newsroom research fails to capture the external (usually structural) factors that contribute to the news production processes is an old one; one of the more recent examples of this line of critique can be found in [Pickard \(2014\)](#) in his overview of the recent spate of (centered and ethnographic) journalism research, much of it newsroom, in which he argues:

Each of these books gives us a snapshot of what ails the news industry. Together, they shed light on the broader question of the future of journalism. If there’s one overarching critique of these otherwise fine studies, it’s their overall lack of emphasis on the structural roots of the journalism crisis ... [insofar as] rank-and-file reporters have often been caught by shifts beyond their control.

A line of journalism research more indebted to political-economic approaches (Sparks 1992) (in which levels of state regulation, differences between national media systems, and macroeconomic forces play a dominant role) can direct the researcher’s attention to powerful forces *technically external to the newsroom* that impact, even structure, the production of news.

Newsroom focused research can not only seem *under-structured*; it can also, paradoxically, appear to be *over-structured* insofar as the trend in this research is to focus on systems of production rather than on the way that audiences and citizens consume the news. Indeed, the past two decades have seen something of pendulum swing in journalism studies; from the production studies of the 1970s and 80s to the cultural consumption studies of the 80s and 90s to the research of today,

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which can be said to mark the return of a production-focused approach [cites from this volume probably, if I can]. The most interesting older research on audiences, however, does not take an individualistic approach to questions of the relationship between news and audiences but rather a cultural approach, in which dominant codes and symbolic orientations structure the intersection between news content and citizen action. Once again, traditional understandings of the relationship between journalism and 'its' audience draw our attention outside the newsroom to those actors on the other side of the news gates.

History is a third (though under-explored) mechanism for interrogating the relationship between 'the newsroom' and what lies outside of it. Ethnographic research in newsrooms can be criticized for freezing its subjects in time – in part by focusing on both the phenomenological aspects of news production (what is seen, understood, and experienced by newsroom actors) and in part because of the (relatively) short amount of time any ethnographer can spend in a single location. Even the most extensive ethnographic studies tend to take place over years, rather than decades; this can lead to the reification of temporary phenomena and the detemporalization of newsroom structures, and both these aspects can be exacerbated by rapid technological change. Historical perspectives on the newsroom, by contrast, can put the pulsating technologies of current news production in context, showing how they have evolved, often in unexpected or unintended ways. In the case of historical newsroom research, the outside of the newsroom lies along a temporal as well as spatial dimension.

Each of these perspectives – the political/economic, the cultural, and the historical – marks a way of getting outside the newsroom, in part by renouncing (or at least supplementing) the ethnographic model. Each of them is also a *methodological* strategy. But are there conceptual strategies through which to 'blow up' the newsroom (Anderson 2011)

while still maintaining the insights of ethnography and its granular, phenomenological, meaning-oriented perspective? I argue that there is, and that to simultaneously perch inside and outside the news production space we need to do more than simply catalog the external, structural factors that govern (or in a stronger sense, determine) the production cycles of news. I want to argue that we can also study *news ecosystems*, which I define as *the entire ensemble of individuals, organizations, and technologies within a particular geographic community or around a particular issue, engaged in journalistic production and, indeed, in journalistic consumption*. In other words: there have always been more groups making, distributing, and consuming the news than those contained within the traditional newsroom infrastructure; that most ethnographic studies of news have looked primarily at the newsrooms of large, traditional, central news organizations; that different outlets and different institutions produce different forms of news and different story frames that then circulate amongst different demographic groups and different strata of citizens; and that these stories, frames, technologies, and journalists travel across digital and physical space, themselves affecting other stories as well. Studying news ecosystems is not a strategy only for the digital age (there have always been groups, such as pirate radio producers, African American newspaper editors, and alternative weekly reporters, who have created news outside the confines of large journalism outlets) but it has particular resonance in an era where the boundaries of news production are blurring online, and where news travels and ricochets extremely quickly across digital space.

In the next section, I want to further refine our common understanding of 'news ecosystem' through a brief genealogical excursion before turning to the two primary ways we might understand the meaning of the term, as well as the different ways we can seek, as scholars, to operationalize it in our research.

THINKING ABOUT NEWS ECOSYSTEMS: A BRIEF GENEALOGICAL EXCURSION

Google N-Grams, a software tool that provides a ‘big data’ overview of prevalence of different phrases in Googles’ scanned book corpus, begins to track the rise of the phrase ‘media ecosystem’ starting in 2001; from then on the use of the phrase nearly doubles every year until 2008 (the last year for which data is available). 2001 is also the year that the phrase was first used in an academic context, in an article entitled ‘Convergence? I Diverge.’ In this piece, new media and cultural studies scholar Henry Jenkins argues the basic point that so-called old media are rarely replaced by new media; ‘a medium’s content may shift, its audience may change and its social status may rise or fall,’ Jenkins writes, ‘but once a medium establishes itself it continues to be part of the *media ecosystem*. No one medium is going to ‘win’ the battle for our ears and eyeballs.’ (Jenkins 2001, emphasis added). Coming from the world of communication and cultural studies, with its analysis of fan communities and alternative media production, it is little surprise that Jenkins shows an innate sensitivity to the actions of discursive producers outside the dominant mainstream.

Nevertheless, Jenkins does not specifically reference journalistic work in his paper. A communications ecosystem of the specifically *journalistic* kind was first mentioned in a 2005 paper by Harvard Berkman Center fellow Rebecca MacKinnon, reporting on the proceedings of a Berkman Center conference and specifically referencing the contributions of internet theorists Jay Rosen and Jeff Jarvis to the conference (MacKinnon 2005). Despite this attention from the ‘founding fathers’ of digital journalism analysis (Borger et al. 2013) it would nevertheless take nearly five more years for the phrase ‘news ecosystem’ to first appear in peer-reviewed journals, including this author’s publication in the

journal *Political Communication* (Anderson 2010) and a number of additional journal articles that cite a Pew study ‘How News Happens: A Study of the News Ecosystem in One American City’ (Pew 2010). By 2012, Google Scholar listed more than 50 articles and books that contained the term ‘news ecosystem.’

These examples, however, certainly do not exhaust the use of ‘ecosystem’ in a specifically communication-related context. Indeed, each of them harkens back to an older understanding of ecosystem – Jenkins’ concern with the material properties of ‘old’ technology, Pew’s focus on information diffusion and transformation, and Rosen’s acknowledged debt, in his 2005 Berkman talk, to the work of ‘media ecologist’ Neil Postman at New York University¹. In short, despite the superficial similarity between these different understandings of the term ecosystem and the degree to which they are both broadly driven by the explosion of easily accessible media content, they actually contain different normative orientations and promote different research strategies. I now turn to a discussion of two main strands or thematic areas in the literature on media ecosystems, what I have called, in the introduction to this chapter, the ‘environmental’ approach and the ‘rhizomatic approach.’ I further distinguish, in my discussion of rhizomatic approaches, those that primarily use big data and quantitative methods and those which draw on more mixed methodologies like interviews and ethnographic fieldwork.

TWO KINDS OF MEDIA ECOLOGIES

Communications in the balance: Media environments

A first strand of scholarship concerned with media ecosystems can be found within the odd communications subfield which I call here the ‘environmental’ approach to media

studies, but which its own practitioners called 'media ecology.' It is beyond the scope of this chapter to provide anything more than a brief sketch of this tradition, a research area with its own conferences and journals, and one which once branded NYU media studies department before the school changed its name in 2001 to the less eccentric 'Media, Culture, and Communication.' The term body of theory first emerged in the late 1960s and early 1970s, and was arguably part of a larger proliferation of the 'ecology' metaphor in a variety mostly interdisciplinary research fields.

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Officially coined by NYU Professor Neil Postman in 1968 (Postman 2000), but drawing on theories of Marshall McLuhan proposed at least a decade earlier (Levinson 2000) media ecology argued that human beings sit at the center of a media 'ecosystem' or 'media environment,' and that this ecosystem dramatically affects their perception, their cognition, and thus their behavior. The roots of the media ecology perspective go back far beyond McLuhan, to the early work of University of Toronto professors Harold Innis (1953) and Eric Havelock (1963), along with Jesuit scholar Walter J. Ong (1982). One of the powerful appeals of this environmental perspective (which has also been dubbed the 'Toronto School' of communication theory [Blondheim and Watson 2007]) was that its key contributors all hailed from distinct disciplines. Innis, for instance, a political economist and historian, primarily focused his research on the role of communication in control over imperial space and time; Havelock, on the other hand, was a British classics scholar fluent in ancient Greek and interested in the transition from oral to written forms of ancient communication. In short, despite the temptations implicit in calling a particular theoretical tendency a 'school,' there remain significant divergences even within the core of the media ecology paradigm and we should be wary of over-generalizing their compatibility.

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And yet all of these scholars, as diverse as their thought was, converged on particularly robust understanding of the relationship between media format and the long-term, society-wide impact of that format. This impact was often conceived in particularly naturalistic terms, particularly by McLuhan; the Toronto School, in other words, extend the particularly 'nature-oriented' aspect of the communications ecosystem metaphor to the point where it encompasses the evolution, growth, decay, and balance between different media types. Forms of media within this media ecosystem, for example are often understood as different *species* – they interact, they balance each other and, if the ecosystem is healthy, they harmonize. These species are largely the subset of more general, more expansive species of media: 'hot media,' 'cold media,' and so on, but also media forms less dependent on McLuhan's idiosyncratic understanding of the history of technology. These media types, again like species in nature, also occasionally go extinct, or evolve into something more advanced or appropriate for the current environment. Finally, from the media ecological perspective, the importance of this ensemble of communications systems is that it operates on the *distinctly human* species sitting at the center of the media environment, largely through the power of its symbols and the manner in which these symbols link up with the human brain. As James Carey put it in a 1967 article on Harold Innis and Marshall McLuhan:

both McLuhan and Innis assume the centrality of communication technology; where they differ is in the principal effects they see deriving from this technology. Whereas Innis sees communication technology principally affecting social organization and culture, McLuhan sees its principal effect on sensory organization and thought ... While McLuhan is intellectually linked to Innis, I think he can be more clearly and usefully tied to a line of speculation in socio-linguistics usually referred to as the Sapir-Whorf hypothesis. (1967: 15)

The media ecologists in general, and McLuhan in particular, have been criticized

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for this techno-determinist tendency; what Raymond Williams called the 'formalism' of the McLuhanist position. 'Much of the initial appeal of McLuhan's work,' Williams writes,

was his apparent attention to the specificity of media: the differences in quality between speech, print, radio, television and so on. But in his work, as in the whole formalist tradition, the media were never really seen as practices. All specific practice was subsumed by an arbitrarily assigned psychic function, and this had the effect of dissolving not only specific but general intentions. (Williams, 1974: 130)

Through their sensory impact (and only in part because of their content) these naturalistic media forms operate directly upon the health of the average citizen consumer in the electronic age, and they themselves affect each other in a way that can mostly closely be compared to one of those little diagrams of the life surrounding a lake or a pond in a grade-school ecology textbook (Figure 28.1).

Materialist media ecologies: The rhizomatic approach

In 2005 Matthew Fuller published *Media Ecologies*, a book that not only took aim at the tradition of media ecology as coined by Postman but also pulled together a variety of threads lying in the borderland between fields such as media archaeology, design, computer science, and actor-network theory (see Chapter 27) to construct an alternative understanding of the idea (Fuller 2005). The object of study in Fuller's book is what he sees as a deeply *dehumanized* media system, one in which the human subject does not sit at the center of a communications environment but is rather one node in a shifting series of symbolic and material media networks. Within these overlapping networks, the outcome is not eventual cybernetic balance (as in the media ecology tradition) but rather dynamic, rhizomatic expansion. This notion obviously draws upon the work of Deleuze and Guattari (1980) who summarize

the principal characteristics of a rhizome as follows:

unlike trees or their roots, the rhizome connects any point to any other point, and its traits are not necessarily linked to traits of the same nature; it brings into play very different regimes of signs, and even nonsign states. The rhizome is reducible neither to the One nor the multiple. It is not the One that becomes Two or even directly three, four, five, etc. It is not a multiple derived from the One, or to which One is added ($n + 1$). It is composed not of units but of dimensions, or rather directions in motion. (Deleuze and Guattari 1980, 21)

In his overview of the differences between these two generations of ecological theory, Goddard (2011) contends that the younger generation is material in a way that the more venerable body of theory is not. I hope that my very brief overview of the work of the scholars contributing to the environmental approach helps demonstrate that this is not really the case; materiality is present in both sets of theories, though it is understood in different ways. In the rhizomatic approach to media ecology, material aspects are understood as neither part of a structuring environment or a series of large-scale historical epochs. Instead, the driving research orientation inclines more to questions of socio-material interaction, how meanings diffuse and interact across space, and how the power differentials inherent in these interactions and diffusions is reified over time:

what are the different kinds of [material] qualities in media systems with their various and particular or shared rhythms, codes, politics, capacities, predispositions and drives, and how can these be said to mix, to interrelate and to produce patterns, dangers and potentials? Crucial to such an approach is an understanding that an attention to materiality is most fruitful where it is often deemed irrelevant, in the immaterial domains of electronic media. (Fuller 2005)

In other words: much as McLuhan argued, all media is material, even – particularly – digital media. But by *material* this rhizomatic strand of media ecology actually means 'something that exercises power over other

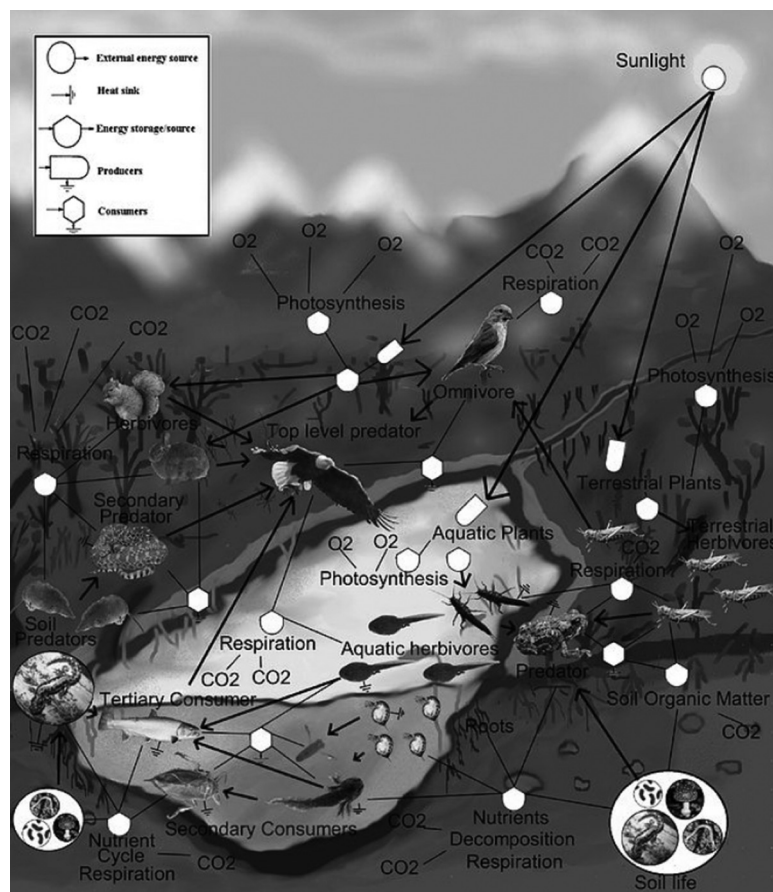


Figure 28.1 Materialist media ecologies: The rhizomatic approach

parts of the network,' and *not* technological determinism in the sense of a structuring environment that envelops the human subject. The theoretical inspiration here is obviously less American or Canadian and more European, drawing on the work of not only Guattari and Deleuze but also De Landa, Steiger, and Latour. There are also radically political undertones to Fuller's project in a way that is foreign to the Postman tradition; as Michael Goddard (2011) puts it, while the older generation of media environmentalism thought of media as the natural system itself, the newer version of media ecology might be seen as more akin to the environmental movement.

To summarize the comparison: the older approach to media ecology uses the natural world as a guiding metaphor, sees different forms of media as individual 'species,' imagines that the dominant mode of interaction between these species is cybernetic (one of balance), and places the human subject (or species) at the center of this natural ecosystem with the primary question of concern being how that species thrives. We might thus call this an environmental approach. The newer approach to media ecology sees no meaningful distinction between the natural and technological world, imagines different media forms as primarily material in nature and historically contingent, imagines

movement in space to be one of diffusion and the exercise of power rather than balance, and does not consider the human to be at the center of any sort of media system, natural, material, or otherwise. This is what we might call a rhizomatic approach, But: what do these different understandings of ecology mean for journalism research, and how do they help us get outside the newsroom in the manner discussed in the opening section of this chapter? I now want to turn to the application of these ecological metaphors in the journalism studies context.

MEDIA ECOLOGIES AND THE STUDY OF DIGITAL JOURNALISM

As argued both in the introduction to this chapter and extensively elsewhere (Anderson 2010; 2011) going beyond the traditional newsroom ethnography in order to study the networks, organizations, social groupings, and institutions that populate the larger ‘news ecosystem’ is obviously the first step in coming to terms with the shifting technological, cultural, and economic structures of digital-age journalism. I want to push this insight further, however, and to do so I want to draw on the distinction between the environmental and rhizomatic understandings of ecosystem that I outlined above. Both of these perspectives can be used to study digital journalism in useful and productive ways, but I would also contend that they ultimately represent different paths forward in the study of news, and ultimately embrace different normative concerns. How might we study journalism if we were to use a more environmental approach? How would the use of a rhizomatic approach shift the focus of our research? And how might we modify the rhizomatic approach – currently primarily part and parcel of large-scale big data analysis – if we want to apply it more thoroughly to journalism research?

Building healthy media ecosystems

The vast majority of digital media studies that go beyond the newsroom have embraced an environmental understanding of journalism and news production. Amongst these I would cite the Knight Commission report on the ‘new information needs of communities,’ (Knight Commission 2009) and the various forms of ecosystem mapping produced by the New America Foundation (for example, Morgan et al. 2010), the Chicago Community Trust, and a variety of organizations operating under the broader Knight Foundation umbrella. Each of these studies can be said to operate along the following lines. They each provide a taxonomy of media and journalistic institutions within a particular geographic or subject area, institutions that include but are not limited to traditional news organizations. They study the information these institutions produce, and conclude with an analysis of how these production outputs (including the oft-valORIZED ‘original reporting’) contribute to a ‘holistically healthy’ citizen.

I want to take the series of Chicago Community Trust (CCT) studies of the local Chicago news ecosystem, conducted between 2009 and 2013 as emblematic of this strand of healthy media ecosystem research. In the four years they were tasked to study the way local news was produced and consumed in Chicago, the CCT compiled a dozen reports focusing on the sustainability and health of local Chicago news. They also compiled a *network analysis* of online websites in 2011 and 2012, a related but distinct task that transitions us into our second strand of scholarship, one that examines what a more rhizomatic approach to journalism network analysis might look like.

The CCT report *The New News: The Journalism We Want and Need* (2009) focused primarily on the new entrants to the Chicago media ecosystem and largely excluded consideration of large, traditional players like the *Chicago Tribune* and *Chicago Sun-Times*.

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Roughly half the report was concerned with creating a taxonomic database of new journalistic players in Chicago (nearly 90 in all) while the second half of the report used focus groups with community and non-profit leaders to determine the kind of journalism that would serve residents of Chicago best. The discussion about the type of journalism citizens 'want' is an extension of the Knight Commission framework on Information Needs of Communities (Mayer and Clark 2009: 3) and helps establish a normative, baseline model for the type of current affairs information that would be most valuable in a 'healthy' local ecosystem. This dovetails closely with the Postman approach to information environments, one that sees the human being at the center of an information environment that makes her healthy, or unhealthy, in a particular way. In letting these community leaders express their opinions as to what news organizations in Chicago are doing well and badly, a framework is established that allows researchers to gauge the success or failure of the news ecosystem as a whole.

Later follow up reports from the CCT in 2011 and 2013 integrated more traditional, establishment journalistic players such as the *Tribune* and the *Sun-Times* into the analysis, largely by stepping away from their analysis of news production and looking more closely at what consumers said they wanted from the news and what they thought they were getting. While focus groups were once again included in the 2011 study, the heart of the analysis was a random telephone survey of Cook County residents conducted in 2010. This survey gave audience members a chance to weigh in as to how their information needs were or were not being served by the larger media ecosystem. Once again, these studies focused primarily on compiling a database-driven, environmental overview of the players in the local media production space in Chicago.

The most interesting aspect of these follow-up studies, however, may be the two social

network analyses carried out by researchers at Northwestern University that used IssueCrawler to conduct a co-link analysis of the manner and degree to which digital news sites (many of them initially analyzed in the 2009 report) were linking with each other on the web; this allowed the CCT researchers to discover web sites which lay at the heart of that ecosystem as the different issue communities that formed individual clusters of the local Chicago news network. While this network analysis begins to take the first steps in considering the rhizomatic structure of the news ecosystem as a whole, it does not track the *diffusion* of local news across that network structure, nor does it monitor the different ways in which it transmutes and transforms as it glides across the network. For that we need to consider a second and distinct set of ecosystemic studies, ones that map the movement of news across a structurally ambiguous digital news environment.

Activating networks in journalism and elsewhere

There are far fewer studies of journalism that can be said to explicitly draw upon the second strand of ecological research, and the ones that do are primarily part of an emerging 'big data and diffusion' strand of communications studies. A typical example of this sort of study is the paper by Wu et al. entitled 'Who Says What to Whom on Twitter?' Distinguishing between 'elite' Twitter users and 'ordinary,' Twitter users, as well as between individuals and organizations on the social networking site, Wu and her colleagues revisit the question of the 'two-step flow' (Katz and Lazarsfeld 1955) from the perspective of the twenty-first century and with a plethora of digital tools to actually map the spread of information across networks. Wu et al. determine that the theory of the two-step flow holds up fairly well in the digital age, with a vast majority of individuals and organizations getting the

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majority of attention on Twitter but the majority of users obtaining their news indirectly from a more diffuse 'middle tier' of site users. They also discover that certain kinds of content 'last' longer within the Twitter-sphere, with attention to news items spiking early and then fading away fast, items from bloggers lasting longer, and video and musing content existing almost perennially as they are discovered and rediscovered by new users.

Unlike the previous studies in the ecological tradition, this study of Twitter does not primarily ground its analysis in distinguishing between different species of media content (though it does of course differentiate between bloggers and traditional media, for instance). Rather, the focus here is looking at how messages diffuse across digital and

physical space, activating particular nodes (human and non human) along the way. The overall perspective is simply *different*, focusing more on traveling news and informational items rather than on constellations of organizational actors distinguished by their rough technological type. As the message moves around, the different formats and socio-material constellations it encounters play a singular role in determining its path, of course.

So far we have seen how environmental perspectives on media ecosystems (perspectives that emphasize balance and species health in the body of the 'informed citizen') can shade almost imperceptibly into social network analyses that emphasize more a process of rhizomatic linkages and message diffusion. In essence, we might summarize these two competing approaches by means of

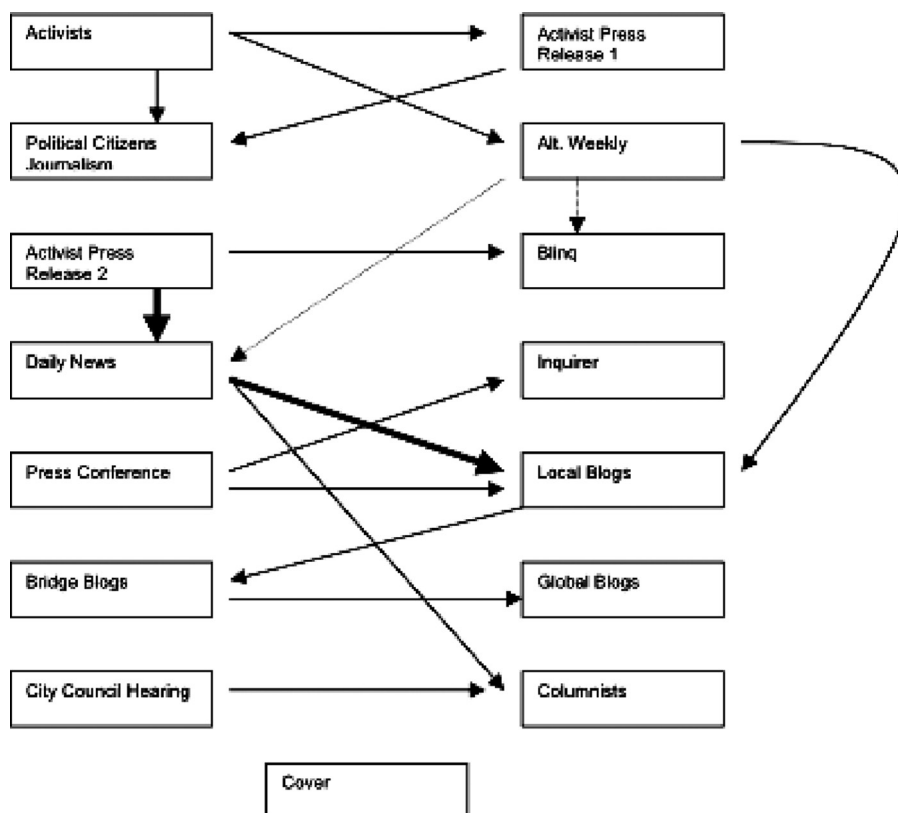


Figure 28.2 The rhizomatic approach

the following charts outlining the relationship between ‘blogging’ and ‘journalism.’ In the first, there are two forms of journalistic writing, both of them influence each other, and each ultimately contributes to ‘citizen health’ in different ways – like zinc and vitamin D. In the second, ‘blogging’ and ‘reporting’ are *folded into* a larger, semio-material network. The first approach is typical of an environmental perspective that sorts media types into different species. The second is more typical of a rhizomatic, approach.

However, while a growing number of these second sorts of studies turn their attention to journalism, those that do often take a ‘big data’ approach to analyzing a large corpus of digital material. Fewer of them study journalistic diffusion in a more granular way, and almost none of these studies draw upon ethnographic or other forms of qualitative research in order to look at how these rhizomatic processes play out on the ground. This gives many of these studies of journalism a structuralist and technology-driven tinge, as if the overall technological communications environment ‘inevitably’ pushed information in a particular and calculable direction. We can see this by briefly examining a few of the most recent studies of these rhizomatic studies of news and journalism. Eberl et al. use network analysis to measure the ‘complexity’ of news coverage in tabloids versus broadsheet newspapers, and find that quality newspapers ‘offer issue coverage that is both more interconnected and more focused on a number of hard news issues than that of tabloid newspapers.’ (Eberl et al. 2014) Two recent studies from the Berkman Center use Media Cloud (an content analysis software aiming to map media coverage of current events) to track the development of journalistic issues in the public sphere – the developing Russian media ecosystem (Etling et al. 2014) and the Trayvon Martin case (Graeff et al. 2014) as they travel across the information network. The study of the Martin case concluded that, while television news acted as the key broker in public attention devoted

to the controversial shooting, digital-native activists were able to ‘hack’ the framing of the story in order direct coverage more favorably in their direction. Finally, a third pair of articles by David Ryfe and his collaborators (Ramos et al. 2014) looked at the network of bloggers and traditional media organizations using a social network analysis; these studies, while they use big data and network mapping techniques, are perhaps more similar to the studies of Chicago discussed in the earlier section of this chapter.

In the PEJ study of Baltimore, on the one hand, we see a more subtle approach to conditions of rhizomatic news diffusion – a hybrid between the more ecologically-oriented studies of news that try to determine how different outlets contribute to particular citizen information needs and those that track the movement of stories across journalistic outlets. Unlike many of the studies just discussed, the supple methodology of the Baltimore study involved determining, first, the population of the Baltimore news ecosystem (60 outlets); second, performing a content analysis of these 60 outlets at staggered times over a day or week; and third, using this content analysis to determine who reported a story first, who picked up on that story, and who added their own original reporting to already published news. The study finds that much of the ‘news’ people receive contains no original reporting. ‘Fully eight out of ten stories studied simply repeated or repackaged previously published information. ... And of the stories that did contain new information nearly all, 95%, came from traditional media – most of them newspapers. These stories then tended to set the narrative agenda for most other media outlets’ (Pew 2010).

While the methodology of the Baltimore study opened itself up to perspectives outside the lens of big data and network analysis, the fact remains that none of the rhizomatic studies discussed so far draw upon ethnographic or other qualitative methods. In that light, I would point to my 2010 study of the ‘Francisville Four’ as the kind of research

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that not only falls within this more hybrid tradition of rhizomatic and newsroom research but *also* includes an important (indeed an essential) offline component based on fieldwork and interviews with reporters and editors (Anderson 2010). In this 2008 research I analyzed how a *single* piece of news (the wrongful eviction and arrest of several Philadelphia-area activists) slowly emerged on the internet, exploded into public view, and then faded away, all over the course of just a few days. This study of how news moved across the length and breadth of the Philadelphia media ecosystem focused less on the 'nutritional value' of various forms of news and information than to uncovering how fragments of linguistic and material facts diffused across the news network in the city. It paid particular attention to how these *fragmented facts* activated (or failed to activate) particular parts of the news network within and beyond the city. Amongst these fragmentary facts were not simply news stories (original or not) and blog posts, but things like particular documents, interviews, links, algorithms, web metric software, and so on.

The primary finding of the Francisville Four study was that, rather than news moving effortlessly and dynamically across digital and physical space (as if gliding through the news ecosystem of its own accord), it was rather 'pushed' by a variety of actors, activists, and interested journalistic parties. Activists strategically publicized their own arrests. Journalists aggressively drew attention to their own stories, sending emails and faxes to reporters and editors at other newspapers, alerting them to recently published material. Traditional reporters made decisions about when to link to a piece, when to draw on other digital material, and what kind of information to trust or not trust. In short, rather than a process of seamless diffusion, the movement of news across digital space was a fraught process with different actors pushing and pulling content against a variety of material and quasi-material structures. And rather than an easy and categorical

distinction between different types of digital media 'species' (for instance, between blogging and journalism, or aggregation and original reporting), different sources and outlets occupied a hybrid liminal zone in which information was originated, synthesized, produced, synthesized again, added to, and so on ad infinitum.

The primary advantage of an ethnographic approach to more rhizomatic research, finally, is that it allows us to both see the spread and diffusion of news *and also* shows us that the process by which this occurs is not solely structural. In other words, digitization changes the dynamics through which news moves but digitization and the shape of networks are not the only factors involved in determining the spread of informational content. Journalists, activists, public relations workers, and other actors exercise news judgement and strategic initiative in their attempts to point the news agenda in a particular direction. In big data analysis of news processes, this perspective is often lost. News diffuses and transmogrifies in part because of technological affordances, and the laws governing this process are in part determined by the structural relationship between network hubs and spokes. But it also diffuses because of the daily decisions made by newsrooms all over the world. With the ethnographic perspective on rhizomatic information production, in other words, we are drawn once again back into the newsroom itself, but from the outside in.

CONCLUSION

The purpose of this chapter was to identify the different ways we might embrace the post-newsroom concept in our study of journalism, particularly two divergent but not incompatible ways of understanding the concept of the 'news ecosystem.' I hope it has made clear some of what is at stake in the choice of which notion of ecosystem we choose, which in turn relies upon the

questions we want ask about the practice of journalism in the emergent digital world. I think both perspectives are useful, and both mark a step forward from the newsroom-centric notion of journalism studies. But there are also reasons why a form of ecosystem research which draws more heavily on McLuhan and Postman's notions of a cybernetic environment has become common in more journalism-industry oriented studies while more rhizomatic approaches have been the preserve of big-data analysts who embrace a more structural perspective on the diffusion and spread of news. In particular, I think there are understandings of the 'healthy citizen' at work here, perspectives which bias researchers concerned with *normative journalism issues* toward a particular form of media research.

The ultimate understanding of the news consumer in the more environmental approaches to news ecosystems is of an organism at the center of a webbed environment of overlapping influences – but a citizen who is sick due to a lack of proper nutritional sustenance. The decline of journalism has reduced the amount of healthy information in the world, so the argument goes; much like a lack of vitamin D can contribute to osteoporosis and rickets, the lack of good news content can make us all a little ill. These illnesses ultimately feed back into the larger polity, building a healthy democracy – or, more likely, a sick one.

The more rhizomatic approach to media ecosystems does not deny that we may have a polity ridden with unhealthy voters and media consumers; rather, it simply declines to make the citizen news consumer the center of its analysis. Instead, it focuses on the news network itself – the way that information, technologies, factual fragments, institutions, reportorial techniques, and many other 'news objects' refract across the larger networks of which human beings form only a small part. There is much for researchers to explore in the dynamic of media ecosystem that is unfolding before our eyes. But it is also important

to keep in mind that, as journalism studies scholars, we are more than simply nutritionists of civic health. As empirical researchers, indeed, we cannot afford to ignore the larger networks currently enmeshing human beings and their non-human counterparts – for they represent the future scholarly terrain of our field.

NOTE

- 1 I asked Jay Rosen if he thought his work with Postman made him more sensitive to the media ecosystem concept. He replied that it did somewhat, but that a more important influence was Postman's idea of the 'information/action' ratio in *Amusing Ourselves to Death*.

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