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NETWORKED NEWS TIME

How slow—or fast—do publics need news to be?

Mike Ananny

What kind of news time does a public need? The production, circulation, and interpretation of news have always followed timelines and rhythms, but these have largely been seen as artifacts of press sociology, not central aspects of journalism's public mission linked to the design and deployment of journalism infrastructure. Since different types of news time make possible different kinds of publics, any critique of the press's material cultures of time-keeping is a critique of the press's power to convene particular people and issues, at particular times. Motivated by the temporal needs of one type of public (a pragmatic public that ensures a public right to hear), this paper proposes a unit for studying news time (the temporal assemblage), and traces it across four intertwined sites in the contemporary, networked press: labor routines, platform rhythms, computational algorithms, and legal regulations. Beyond this article's investigation of this public in relation to these dynamics, my aim is to contribute to the emerging "slow journalism" movement by asking: how slow—or fast—do different publics need news to be? And how are networked press paces set?

KEYWORDS listening; networked press; news time; public; temporal assemblage

Introduction

What kind of time does the public need from networked news? If publics emerge, in part, because people come to see individual concerns as common causes and inextricable consequences of social life, how does the networked press's time-keeping make some kinds of commonalities and consequences more likely to emerge than others?

This article proposes an answer to this question by examining how one mission of the networked press—its role guaranteeing a public right to hear—appears in its temporal infrastructure. Specifically, following critical legal scholarship and pragmatic philosophy, I argue that collective self-governance requires the press not only to call a public to action at key moments, but also to provide publics time for uncertainty, self-doubt, and listening. I ground this rhythm in a branch of US legal theory and emerging political philosophies; argue that the press's time-keeping functions are best understood as a sociotechnical assemblage; and trace the making of networked press time through the press's labor routines, platform rhythms, computational algorithms, and legal regulations.

Beyond this article—exploring the networked press's guarantee of a public right to hear through its assemblage of temporal elements—my aim is to suggest a general,

theory-driven approach to studying news time: for any normative theory of the press, identify the time-keeping dynamics that instantiate that theory empirically, and suggest a framework for evaluating—and making interventions into—both how well those dynamics enact the theory and how they suggest new normative models of press time. My aim is to contribute to emerging conversations on the study and practice of “slow journalism” (Craig 2015; Le Masurier 2015), “slow news” (Shapiro 2010), and online breaking news (Hartley 2011; Saltzis 2012; Thurman and Newman 2014) by asking: how slow—or fast—do publics need the networked press to be, why, and what regulates its speed?

What is a Public Right to Hear and What Kind of News Time Does it Need?

Communication scholars have long studied how to connect normative goals to institutional conditions. As Baker (2002, 125) asks: “What type of free press does democracy need and why does democracy need it?” Different versions of democracy assume seemingly self-evident and unassailable definitions of press freedom: *pluralist liberals* want “partisan and segmented” journalism to mobilize people and advocate for interests; *administrative liberals* see the press as a “check on power” that covers “crises and campaigns” and exposes government abuse; and *republicans* want journalists to amplify citizens’ voices, facilitate discussion, and manage debate forums (Christians et al. 2009, 97). Any interference with—or failure to support—one of these models is seen as infringing upon press freedom.

Throughout US history, scholars, journalists, and audiences alike have either attacked or celebrated different ideals of the press. It was only in the 1940s that critiques of the media’s “excessive commercialism” spurred policy interventions to “ensure that profit was not the sole imperative of the American news media” (Pickard 2014, 3)—that the rights of media owners to be free of state intervention did not trump the public’s freedom to self-govern through the press. The challenge of this “central image” of press freedom is to ensure that the public “receive[s] all the information it needs—about government actions or public issues—to exercise its sovereign powers” (Bollinger 1991, 1). If democratic self-governance requires not only the *absence* of unreasonable restrictions on individual speakers, but also the “right to hear the views of others and to listen to their version of the facts” (Emerson 1970, 3) then, as legal philosopher Alexander Meiklejohn (1948, 25) famously wrote, the “point of ultimate interest is not the words of the speakers, but the minds of the hearers.” Contemporary philosophers continue this line of inquiry, arguing that *listening* is a legitimate and necessary form of political participation in its own right (Lacey 2013). Without listeners, speakers lack power and are effectively mute (Macnamara 2013); and political ends achieved through listening are more legitimate, efficacious, and sustainable (Dobson 2012) than those reached through speech marketplaces that leave no time for listening.

Compelling as these theories and critiques may be, we are left with the problem of how to create the institutional conditions for listening. Especially in an era of seemingly endless opportunities to speak, how can the press make *time* for the “type of press freedom” that values the “minds of the hearers?” Answering this question requires two steps. First, operationalizing the concept of listening into practices and values that

show why a right to hear matters to democratic self-governance; and, second, connecting this operationalization to the material cultures—tools, systems, artifacts—that the contemporary, networked press uses to convene publics in time.

Giving Publics Time to Hear

A public right to hear requires not only the right to receive information from state officials, or access libraries, archives, and courtrooms (Lee 1987). Rather, it is a broader entitlement to meaningfully consider perspectives on the social conditions that people create and share with others. Distinct from individual and private interests, what “have to be taken care of, looked out for, and call a public into being” (Dewey 1954, 27) are the indirect and unplanned consequences of associational life. Consequentialist publics emerge from—and are *contingent* upon—the description and experience of inextricable social relationships that lead some consequences to be believed and acted upon over others. For Dewey (1910), the only *legitimate* way to believe or reject a consequence as relevant and “reasonably probable or improbable” (4) is through “active, persistent, and careful consideration of ... the grounds that support it, and the further conclusions to which it tends” (6).

People need time to reflect before believing a consequence, appreciating its relevance, and seeing its social dynamics. The experiences of “perplexity, hesitation, doubt, [and] suspended belief” (Dewey 1910, 9) are politically powerful because they help people to “digest impressions, and translate them into substantial ideas” (37). Only when “general summaries are made from time to time does the mind reach a conclusion or a resting place” (212).

To be sure, not all types of publics require this kind of time. A “representative liberal theory endorses a norm of closure—a time at which all concerned can agree that the matter has been decided and the system moves on” (Ferree et al. 2002, 294), while Habermas’s (1996) ideal speech situation permits infinite rational deliberation. Pragmatist publics similarly need ongoing communication and material action, but they see them as less linear and isolated; pragmatists see communication and action as inseparable because they both “help us get into satisfactory relation with other parts of our experience” (James 1997, 100). To a pragmatist, communication only ends too quickly—or goes on too long—if it creates *unsatisfactory* relationships among people and social consequences. The *temporal* challenge facing institutions acting in a pragmatic tradition is to enlist memory, empathy, and foresight (Belman 1977) quickly enough so that shared consequences can be seen and acted upon—but not so quickly that people divert their attention or act before having had time to reflect upon the significance of those consequences. Incessant talk delays necessary action, but peripatetic communication creates unsatisfactory ends and incoherent justifications.

Time is not only a requirement *for* publics—it is also a product *of* publics. As Sharma (2014) shows, an individual’s freedom to imagine consequences emerges from a “politics of time” that sees “time, not as being singularly yours or mine for the taking but as uncompromisingly tethered and collective” (149–150). No single person can control time because time is only meaningful when it is collaboratively made and interpreted. For example, although some people have the power to pause or delay action to enjoy “a sort of distance from the world that makes it possible to assess one’s place

in it" (111), slowness is a "privileged tempo" that shows the inequalities of "democracy and the public sphere" (110). Dewey may want his publics to have time to hesitate, doubt, digest, translate, and rest, but Sharma reminds us that the power to slow time is unevenly distributed and asks:

what new forms of vulnerability are necessitated by the production of temporal novel-
ties or resistances to speed. Whose time and labor is reorchestrated by changes in
pace, whether sped up or slowed down? (Sharma 2014, 150)

Materials for Making Temporal Publics

Answering Sharma's question does not require abandoning Dewey's ideal, but it does mean critiquing the material conditions of the politics of time. Specifically, it means examining how time is governed by sociotechnical relationships that communicate consequences—how people and materials intermix to keep time in ways that make some shared conditions more believable, visible, actionable, acceptable, or relevant than others.

The sociotechnical power to make time is long-standing and well-studied. Farmers in the Middle Ages had to coordinate their church bells with the townspeople's mechanical clocks; fourteenth-century French vintners destroyed the centralized clocks that tracked their hourly wages (de Vaujany et al. 2014); wrist watches began as symbols of wealth but, later, *not* wearing one signified the privilege of living without schedules (Thompson 1967); clock towers became "logistical media" that both told time and assembled groups (Peters 2009); and even in seemingly rational contemporary organizations, managers regularly re-set workers' clocks and calendars in response to events they judge significant (Orlikowski and Yates 2002). Time is never just time: it always "functions as a context for anchoring the meaning of social acts and situations" (Zerubavel 1981, xiv), meanings that take *material* form as "artificial signs to remind ... in advance of consequences, and of ways of securing and avoiding them" (Dewey 1910, 15).

Drawing upon Latour's (2005) actor-network theory and DeLanda's (2006) assemblage theory, the study of networked news time is the study of "temporal assemblages": networks of humans and non-humans continuously creating and adapting to forces that control the speed of actions, and the significance of that speed. The unit of analysis is the *network* of relations; the network can never be stopped or bracketed without changing it; both people and artifacts have agency; and the primary objects of study are not only *control* of speed (how quickly or slowly a network produces action) but *interpretations* of speed (the significance a network of actors gives to speed). Rhythms, interruptions, beginnings, and ends of temporal assemblages are not intrinsic to networks, but *second-order* constructs created by the humans and non-humans (including researchers studying assemblages) describing a network's control and interpretation of speed. The political economy of this assemblage is the distribution and application of power that sets speeds or defines their significance.

Two issues are at stake for the public significance of temporal assemblages. First, if a public right to hear requires that people who inextricably share social conditions have time to encounter, doubt, revise, and act upon beliefs, then we need to ask

whether any given temporal assemblage's political economy makes time for this kind of self-governance. Second, the temporal assemblage *itself* may be an inextricable condition of associational life. It is impossible for publics to simply use a temporal assemblage to govern themselves without eventually wondering about the political economy of the assemblage itself. For example, part of understanding the pace and significance of climate change means appreciating how a powerful network of journalists, press ideals, lobbyists, policy-makers, advertising, and consumer preferences let climate change go underreported for so long. Temporal assemblages matter not only because they have the power to set rhythms for listening out for and self-governing consequences—they also involve powerful forces that require oversight if new forms of listening are to be invented and new types of consequences are to be recognized.

A *consequentialist* theory of publics, then, is concerned not only with giving individuals time to reflect on the origins and probability of outcomes, but also with the network (Latour 2005) of time-keeping people, practices, norms, and objects that control the timeframe over which a controversy becomes a "matter of concern" (Latour 2004). If a network is defined too broadly, or a timeframe stretched too far, an issue can be seen as *irrelevant*: a product of niche interests, unimaginable futures, or incessantly intractable debates (Edwards 2003). If it is defined too narrowly or too immediately, matters are private and without public relevance. Connecting Dewey's focus on consequences with Latour's network, Marres (2012) defines the contemporary problem of the public as *relevance*: "the more inclusively we define the set of actors that may take an interest in the matter at hand, *the less relevant* the issues are likely to be to them" (51, emphasis in original).

The problem of relevance assumes a temporal dimension when assemblages have power to determine *which* and *when* consequences get attention by convening people and timescales. Some argue that separations between space and time collapse as information technologies "annihilate time" by "squeezing more activity into a given time" and "blurring" the "past, present, and future in a random order" that resists coherent sequencing (Castells 2009, 35). But space and time may normatively *need* separating in order to sustain a diversity of timescales. A *range* of temporal publics—constituents considering consequences in the short, middle and long term—require temporal assemblages with "resistances to speed" (Sharma 2014, 150) and the ability to counter "timeless" and "undifferentiated time, which is tantamount to eternity" and perpetual immediacy (Castells 1996, 494). Diverse publics require diverse timescales.

Such assemblages—and the potential for annihilation, resistance, and diversity—now exist not only in traditional institutions (work, religion, schools) and biological rhythms (sleeping, eating), but also consumer devices omnipresent on our bodies (Wajcman 2014), social media platforms pushing immediacy and newness (Kaun and Stiernstedt 2014), infrastructures for synchronizing distributed labor (Irani 2015), and real-time machine learning algorithms driving online surveillance, search, and advertising (Weltevrede, Helmond, and Gerlitz 2014). Normative interventions into these networks require descriptions and justifications of *ideal* temporal assemblage configurations—a typology of the power and associations needed to make normative times possible.

An ideal temporal network for realizing pragmatic publics gives people enough time to surface, reflect, and act upon the social conditions that create inextricable, shared consequences. Akin to Silverstone's (2003, 473) argument that media can create

“proper distance”—configurations of space and meaning that are “distinctive, correct, and ethically or socially appropriate”—the press might help to create “proper time” for pragmatic publics if it creates assemblages that both control speed and articulate that speed’s significance. “Proper” is a charged word. My aim is not to argue that journalists should paternalistically govern time but, rather, to point out that the power to make time is the power to make publics. The networked press might do so purposefully, for example, configuring its temporal elements to ensure a pragmatic, public right to hear.

Historical Forces Governing News Time

A complete history of news time is beyond the scope of this article, but it has always emerged from material cultures that make, circulate, and signify news. In the 1820s, New York City newspapers banded together to buy a “fast boat” (Schudson 1978, 26) that could meet ships with news arriving from England faster than their competitors’ slower fleets. US news organizations were initially slow to use telegraphs because the companies that owned them insisted on “giving each station a turn at transmitting a bundle of accumulated dispatches without interruption”; instead of using telegraphs to create “two-way ... real time” (Blondheim 1994, 36) as they originally wanted, papers instead synchronized their printing schedules with their telegraph turns or only printed telegraph news that was ready at press time. Even the *breaking* of news rhythms to signify novelty took material form as early radio broadcasters standardized the “bulletin”: short introductory sirens, breathy announcers, and dead air with background noises all built anticipation. The new genre signified the unrehearsed importance of everything from the Lindbergh baby’s kidnapping to the *Hindenberg* explosion and *The War of the Worlds*. The making, distribution, and interpretation of news have always depended on how journalists used materials to compress, organize, and puncture time.

Studies of news work (Boczkowski 2010; Gans 1979; Molotch and Lester 1974; Schudson 1986, 2000; Tuchman 1972) identify inside-out and outside-in forces governing news time. *Inside-out* time emerges from within news organizations. The need to start a press run and coordinate with circulation logistics might pause or stop reporting; a desire to conserve resources might halt expensive, long-term investigative work; competition can mean speeding up to scoop a rival, minimally updating a story to make it seem novel, or delaying publication until an exclusive news hole opens up; and an editorial judgment of a time-sensitive public need may mean issuing a bulletin, interrupting an audience, or hurrying publication before an election. *Outside-in* time, though, is set by forces beyond the news organization. For example, a morning government press briefing may drive a day’s news cycle; a natural disaster can unexpectedly dominate coverage for days or weeks; election cycles reorient journalism toward political issues; and quarterly earnings reports, monthly economic metrics, State of the Union addresses are all anticipated and highly ritualized events that organize press schedules. Many of the tensions of news time are about synchronizing inside-out and outside-in forces—making sure that sources, beats, journalists, advertisers, and audiences all share rhythms.

But these temporal relationships are simply traditions that have become fixed in materials and practices, not recipes for how news time *should* work. As Birth (2012, 2)

puts it, the “artifactual determination of time does not represent a coherent, consistent cultural system,” but “the sedimentation of generations of solutions to different temporal problems.” As journalism changes so too do the boundaries (Carlson 2015, 2) separating inside-out and outside-in time, making this a moment to normatively critique the material forces governing assemblages of networked news time and, thus, making temporal publics.

Contemporary Forces Governing Networked News Time

Following the operationalization of the contemporary press as the networked production, circulation, and interpretation of news, networked news time is a function of at least four dynamics: labor routines, platform rhythms, computational algorithms, and legal regulations. I do not suggest that these four capture all aspects of networked news, but propose them as a starting point for tracing the networked rhythms of the contemporary press. Together, they represent major forces driving journalistic work, publishing mechanisms, audience modeling, and regulatory oversight.

Labor Routines

Research suggests that many online journalists, worldwide, work under a “tyranny of immediacy” (Le Cam and Domingo 2015). Studies of French, Spanish, Danish, German, UK, and US newsrooms (Domingo 2008; Hartley 2011; Le Cam and Domingo 2015; Saltzis 2012; Usher 2014) describe journalists working under a complex mix of inside-out and outside-in time pressures inextricable from digital materials: an ever-present wire service driving continuous site updates; fear of a seemingly stale homepage and a need to continually reorder stories according to ever-changing importance; all-hours feedback from editors sending texts and mobile emails; an expectation to start shifts already aware of social media trends; awareness of competitors’ posts and audience traffic metrics; multitasking across media and publishing platforms; pressure to trust wire services without verification; confidence that website errors can be deleted without having to issue formal corrections; distinguishing among a story update, a new story, and a completed story; and coordinating with coworkers and audiences in other time zones. Indeed, *The New York Times* recently foregrounded immediacy in its organizational structure when it created an “Express Team”: specialists in fast reporting who act as an “early-warning system” to “cover news that readers are searching for and talking about online,” designed to “supplement—not supplant—the work of desks and departments” (Wemple 2015).

Such patterns suggest that online news rhythms emerge more from brokering *among* networked forces than using internal power to tame outside forces into predictable, coherent schedules (cf. Molotch and Lester 1974). Individual journalists and news organizations cannot slow news *themselves* because they often lack the “allocative” power to set rhythms independent of the networks in which they are embedded—and usually always lack the “operational” power (Murdock 1982) to unilaterally reshape networks and independently marshal platforms, audiences, algorithms, and laws to control when news circulates.

Platform Rhythms

Many networked news rhythms are now set by social media sites that solicit, curate, and govern engagement with online news (Clark et al. 2014). Such platforms are not just publishing channels, but places where journalists source, disseminate, and compete with people and information that have not historically been part of the press. Social media rhythms influence press rhythms when platforms change the making and meaning of news time. This influence comes not only in the form of technological power to deliver content faster, but also cultural power to suggest that social media represent public concerns—that social media rhythms *should* be press rhythms.

For example, as part of its “Instant Articles” initiative, Facebook hosts the stories of some news organizations directly on its servers; the company says this is to ensure that articles “load up to 10 times faster than they normally would” (Goel and Somaiya 2015) if served from news organizations’ own servers. The new Google-led “Accelerated Mobile Pages Project” (2015) similarly lets publishers speed up their mobile site load times in exchange for letting data brokers cache news content. News organizations trade their content for access to speedier platform infrastructures they hope will drive traffic and advertising revenue to *their* sites—but early evidence suggests that “Instant Articles” sequestered within Facebook’s infrastructure are shared more frequently than links to news organizations’ own sites (Hazard Owen 2015a). Infrastructures with the fastest load times garner the most traffic, making speed a commodity for partnerships between news organizations and social media platforms.

In addition to the distribution speed, platforms also regulate memory. A past story can suddenly resurface and seem novel because platform forces make it newly visible: e.g., a well-connected user reposts it, a recommendation algorithm resurrects it as relevant to current coverage, or Facebook deems it an “anniversary” event. News organizations also regulate and encounter archives through application programming interfaces (APIs)—software controlling and regulating database access. For example, *The Guardian* (2015) requires that users of its “Open Platform” API refresh content every 24 hours, discouraging content from being cached beyond its servers and ensuring that *its* database contains the most current version of any story. News organizations also depend upon *other* platforms’ archiving policies. This was the case when journalists suddenly lacked a full history of politicians’ public statements after Twitter rescinded API access to the Sunlight Foundation’s Politiwoops project, an initiative to archive politicians’ deleted tweets (Bondioli 2015).

Platform dynamics can also impact reporting rhythms on and beyond news sites. Immediately after the 2013 Boston Marathon bombings, hastily assembled Reddit and Twitter groups identified innocent people as suspects and circulated false information based on rumors. News organizations were triply ill-equipped to deal with this speedy crowdsourcing: they reported unconfirmed social media information far earlier than their editorial standards officially allowed; once discovered, news organizations struggled to correct errors faster than platforms propagated them; and news media who purposefully paused before reporting were seen as slow-moving, overly cautious official information sources out of step with what audiences wanted during the crisis (Starbird et al. 2014; Tapia, LaLone, and Kim 2014). Reporters not only compete with and publish on platforms during crises, they consult them for background information (Machill and Beiler 2009), potentially adopting their temporal properties: Wikipedia pages on unfolding

crises are moderated by a small group of densely connected power users (Keegan, Gergle, and Contractor 2013) who are most often men with high levels of internet skill (Hargittai and Shaw 2014). Wikipedia may be invaluable for reporting breaking news but the demographics of those willing and able to edit newsworthy pages during crises may skew journalists' contextualizations of quickly unfolding events.

Platforms can also influence when news circulates. Approximately 33 percent of Americans access online news sites throughout the day (American Press Institute 2014), but they also encounter news when platforms reveal it. Platform designs structure time: tweets appear in reverse chronological order; recency influences Facebook's newsfeed; SnapChat and Periscope stories are framed as more ephemeral than those on other platforms; some mobile news apps only show breaking news to people in the relevant locations (Ellis 2014a); and, after two US television journalists were shot, video of the killings not only circulated on Facebook and Twitter but *automatically* played when users encountered it in their tweet streams and news feeds (Valinsky 2015). It was impossible to avoid the video by not clicking on it, or choosing a different time to watch it. *The New Yorker* even anticipates if a reader is about to leave an article before finishing and asks if she or he wants an email reminder to return (Lichterman 2015). Many sites also optimize their publishing times—Vox updates at 8 pm daily and Toronto's "lunchtime tabloid" at precisely 12:36 pm (Hazard Owen 2015b)—in part due to global platform rhythms: the most popular times to tweet are 9 am Pacific, 8 am in Hong Kong, and 9 pm in China, but to get clicks on tweeted links 2 am Pacific, 11 pm Eastern, and 8 pm Eastern European are best (Lee 2015).

Press time is inextricable from platform time. Circulation, archiving, crisis reporting, global distribution, and viewing times are all beyond the control of any single news organization, or even the field of organizations that have historically defined the press. For the press to create the time a public right to hear requires, it must adopt, coopt, and challenge how forces existing beyond newsrooms and in platforms both control and signify speed.

Computational Algorithms

Networked news rhythms also appear in the "technological dramas" (Carlson 2014) driving the largely invisible networked information algorithms that semi-autonomously make, organize, and disseminate online news. An emerging set of predictable, event-driven news stories are written by algorithms that parse databases in near real-time to data-driven natural language narratives. The news beats of these "robot journalists" are defined by the rhythms and changes of databases that algorithms have been programmed to query regularly.

Such temporal encodings exist within news organizations' own algorithms and para-journalistic social media platforms. The Associated Press partners with Automated Insights to algorithmically generate stories on companies' quarterly reports (Miller 2015); *The Los Angeles Times* (Meyer 2014) and KPCC (Take Two 2014) regularly query the United States Geological Services's (USGS) data to algorithmically generate stories on seismic activity; and *The New York Times*' "Watching" and "Trending" projects (Ellis 2014b) continuously monitor social media platforms for changes, alerting audiences to patterns in near real-time. The Google News crawler uses, among other factors, "freshness" to

rank search results (Google 2015); Facebook's news feed algorithm considers not only how recently a story has been shared but how much time people spend on it and whether older stories are popular enough to be resurfaced (Yu and Tas 2015; Backstrom 2013).

No single algorithm governs news time. Algorithms both inside and outside of newsrooms are sustained by a largely invisible set of real-time computational relationships: code talking to code nearly instantaneously and often without close human oversight. Such assemblages are often only visible as temporal infrastructure when they fail (Star 1999, 382)—when they err so egregiously that audiences, editors, and programmers alike agree that networked news time broke.

For example, in 2008, United Airlines' stock price dropped 75 percent after Google's crawler mistakenly interpreted a *Florida Sun-Sentinel* story about the airline's 2002 bankruptcy as a *new* story, not of a six-year-old report (Cohen 2008). Search results for "United Airlines" on Google News listed the archived story as the most relevant, leading some investors to trust the *algorithm's* sense of time and sell their stocks before confirming the story's veracity (Baer 2008).

News organizations' own algorithms are not immune to such temporal errors. Prior to publication, *The Los Angeles Times* reviews all stories its "Quake Bot" algorithm writes in response to the USGS automatically generated earthquake data. But, in July 2015, the USGS database failed to issue a data "deletion notice" after mistakenly locating two earthquakes in California and thus triggering "Quake Bot" to write a story. After no reports of damages, no tweets from the area tagged #quake, and an Associated Press story questioning *The Los Angeles Times* report, it took several hours for the paper to issue a correction—but not before *The Los Angeles Times*' own tweets of its erroneous stories were retweeted 148 times. In the aftermath of this error, *The Los Angeles Times* and USGS announced they would collaborate to design a less error-prone data flow (CBS San Francisco 2015). The stories and their corrections revealed: poorly synchronized data structures without consistent human oversight; reliance on audience reports, platform patterns, and competitors to identify errors; and the impossibility of issuing timely corrections that could propagate quickly across multiple distribution channels. Algorithms write quickly, but corrections require human judgment and platform control that move more slowly than errors spread.

When computational infrastructures automatically publish stories, news time becomes algorithmic time. News organizations may be able to design editorial pauses into their own algorithms, but their review, publication, and correction rhythms are effectively at the mercy of other organizations' algorithms, databases, and fact-checking standards. Networked news time entails negotiating with non-journalists *and* their code.

Legal Regulations

Finally, networked news time intersects with legal doctrines regulating the frequency, timing, and archiving of news stories. For several years, US shield laws have prevented journalists from being compelled to testify in state courts but, in attempts to update or pass statutes for *online* journalists not officially employed by traditional news organizations, a temporal element to the protection has emerged. For example,

the proposed US federal shield law defines a “journalist” as someone who, before an incident in question, practiced for one continuous year within a 20-year period, three consecutive months within five years, or produced a significant amount of work in the last five years (Schumer 2013). State statutes similarly contain temporal references that need interpretation in online contexts: Alaska, Illinois, Florida, Louisiana, and Oklahoma protect someone who “regularly” collects or writes news; Indiana and Rhode Island protect journalists at organizations where news is “issued at regular intervals,” whereas in New York protected newspapers must publish “not less frequently than once a week” for “at least one year”; and Delaware only protects someone who during “the preceding 8 weeks had spent at least 20 hours” doing journalism (Digital Media Law Project 2013). Journalism is protected only if journalists have worked recently, often, and long enough; journalists who are too slow, infrequently publishing, or novice may not be shielded.

Online news can also effectively disappear if journalists depend upon circulation infrastructures that become illegal. Although news organizations are exempt, the European Union’s “right to be forgotten” legislation requires that “data controllers” like Google remove from their search indices “inadequate, irrelevant or no longer relevant” information (Arthur 2014). Since news organizations receive anywhere from 5 to 40 percent (Benton 2014) of their traffic from Google, in practice this means that de-indexed news stories have limited circulation. The BBC, *The Guardian*, and *The New York Times* have all had stories de-indexed (Cohen and Scott 2014), with the BBC keeping a public record of removed stories (McIntosh 2015). Past news stories are only *effectively* visible if archival infrastructures stay legal.

Lastly, some publishers are attempting to resurrect time-sensitive news laws. The “hot news” doctrine emerged when, in 1918, the Associated Press (AP) “challenged International News Service’s (INS) use of its newswire stories, attacking INS’s ability to take advantage of the time difference between the East and West Coasts by immediately rewriting AP’s stories and distributing them at the same time AP was able to distribute them on the West Coast” (Sherrod 2012, 1209). The US Supreme Court agreed that because the AP had invested in infrastructure to quickly gather and disseminate breaking—“hot”—news, it not only had copyright to its wire stories but, for a short period of time, it also *owned* the *facts* within those stories. The ruling recognized that material investments in news time can create a time window within which news organizations have a right to use temporal infrastructures for competitive advantage.

Though it might seem antiquated today, the doctrine lives on. In 2009, in *AP v. All Headline News*, a United States District Court recognized that the AP’s claim of “misappropriation of [their] hot news remains viable” (Castel 2009, 9) as grounds for claiming time-limited ownership over news facts. Also, in 2010, the same court required that online financial news site FlyOnTheWall.com wait to release facts about the firms it analyzed “until at least thirty minutes after the market opened” or “two hours after the firms first released” the information (Harrison and Shelton 2013, 1659). Though controversial and rarely invoked in an age of global and nearly instantaneous news circulation, the “hot news” doctrine’s continued relevance shows courts’ willingness to slow news to the pace set by the media companies creating and controlling time-keeping infrastructures.

Conclusion

In their landmark study “It’s About Time: Temporal Structuring in Organizations,” Orlikowski and Yates (2002) find that successfully sharing time depends upon how many people belong to a group, how geographically widespread it is, how common time-keeping artifacts are, how taken-for-granted and embedded time-keeping is in everyday lives, and how many *other* groups depend upon that group’s version of time. Time only “works” when all these factors are accounted for.

This definition of success, though, leaves largely undeveloped the question of whether one type of time might be normatively better than another. We could complement descriptions of *how* networks create time with ethics of how they *should* create time. In the context of contemporary news time, the challenge is to connect accounts of how press assemblages create journalistic rhythms with theories of what publics need from networked news time. If networked news rhythms are set by labor, platforms, algorithms, and laws, then forces with the power to do so need to configure them in ways that realize the time required for a public right to hear—pauses to reflect, hesitate, and doubt *and* make timely interventions into the inextricable consequences of shared social life.

Different temporal assemblages create different types of news time and, thus, different types of consequences. Some shared social conditions may never be realized or debated because the temporal assemblages governing public discourse never surface them—because the power to speed up or slow down collective time is unevenly distributed or systematically oppresses the realization of diverse timescales. The responsibility for ensuring that temporal assemblages enable listening cannot simply mean asking individual readers to “speed up” or “slow down.” Personally offloading accountability is too common in neoliberal models that expect individual consumers to (impossibly) define their own social conditions, or create their own time. The responsibility to create temporal assemblages that ensure a public right to hear lies with those who wield assemblage power. In the case of networked news, those with power are increasingly technologists and advertisers—not journalists—whose platforms and commodifications control how and when news circulates.

Since different types of publics require different types of time—the consequentialist public foregrounded here is only one—each theory of the public requires different temporal assemblages; and since assemblages intertwine technologies, practices, and values that constantly change, each new seemingly independent innovation of a particular actor—e.g., a change to Facebook’s newsfeed algorithm, or Twitter’s introduction of the “Moments” feature—will influence how news time is collectively made and thus which publics are possible. Temporal assemblages become analytics for tracing the power of the networked press to convene publics by managing timescales.

Integrating the forces discussed here, a public need to pause and reflect during breaking news may only be realized if news organizations reward journalists for slower publishing, if platforms suspend auto-playing videos, if story-writing algorithms pass a higher standard of error-checking or extra round of editorial review, and if news organizations see delayed publishing as a public duty, not property right. Similarly, a temporal assemblage might help publics relate historical patterns to contemporary events if it uses archived traffic data to reassemble past audiences, reorients social media platforms’ recommendation algorithms, and gains exceptions to the “right to be forgotten.”

No single assemblage element can change news time, but a public right to hear may provide an impetus for new types of coordination among the parts.

Such experiments in news time require both power to configure networks and normative arguments for doing so. Scholars and practitioners defining the *field* of journalism might examine what types of networked news time are possible, what types are needed, and how the power to make news time is distributed among diverse actors. The emerging “slow journalism” movement might ask: “how slow—or fast—do different publics *need* news to be?” and how can networked news paces be set?

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