Newspapers Experiment Online: Story Content after a Decade on the Web

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#### Abstract

Mainstream U.S. newspapers since the 1890s moved away from event-centered news of local persons and places and toward interpretative news of more distant issues, a trend called the new long journalism that continued when the press moved online. By the mid 2000s social media and web interactivity were common, and print news had not yet entered the profitability and jobs crisis-to-come. A study in 2005 replicates and extends the baseline measures of online news content. The long journalism trends continued for politics, a core topic in serving the public, and for NYTimes.com, a leader in the media and innovator online. But for breaking news topics such as accidents and for less prominent news outlets, online content moved toward shorter, less analytical coverage linked to individuals, other current happenings, and an especially local focus. The results show how journalists were experimenting at a key moment in the development of online news.

Keywords. content analysis, internet, news, politics, United States

'It is a newspaper's duty to print the news and raise hell', said editor and proprietor Wilbur F. Storey of the Chicago *Times* in 1861 (quoted in *Time* Magazine, November 30, 1970, *TIME.com*). In that era 'raise hell' meant to unsettle the comfortable and carried populist overtones, but in the next century and a half, newspapers became less partisan and their aims shifted to raising hell in the sense of making noise to gain attention in competitive markets. When moving online U.S. newspapers marked their territory without being noisy, instead imitating their print editions or just shoveling content into the new medium. By 2005 browsing the internet had been commonplace for a decade, but as newspapers continued focusing on print, what was the fate of their content online? Pundits had predicted the death of newspapers if journalists failed to adapt, and so measuring news content

online can reveal whether the mainstream press in a country with wide internet adoption and a deeply rooted newspaper tradition was starting to use the new online medium to make noise and grab attention.

Journalists at the time argued that the web was changing U.S. news fundamentally. An editor of the *Washington Post* online version pointed to changes in multimedia, continuous deadlines, and participatory journalism (*The Quill*, October/November 2005: 64–67). News organizations had begun creating continuous news desks to handle the flow of stories online, and an occupant of the *New York Times* desk said that internet journalists would cover 'their subjects more deeply, in new ways, and deliver more to the reader than was possible before' (*Nieman Reports*, Winter 2006: 64). Instead of a threat to credibility, an editor of the *Online Journalism Review* said that journalists' blogs could build trust by making their work more transparent and accountable (*Nieman Reports*, Fall 2003: 70–72).

The arguments about journalism content, reporting, and public trust took place a decade after online editions became common for U.S. newspapers but before industry turmoil led the Pulitzer-winning Rocky Mountain News to close and Christian Science Monitor to announce its move entirely online. At that moment newspapers could still experiment freely online to raise public notice, or choose to concentrate on practices that had worked for their respected print editions. But the state of change in news remained unclear. Had the content shifted as Web 2.0 was emerging and more users turned to online news sites? If so, how did the content differ? A long-term project to track changes in the U.S. press since the 1890s took another measure of content in 2005 and found experiments with news abounded, as iournalists adapted to new conditions while pursuing their mission to inform the public. The results from the U.S. example have implications for other countries, as well as documenting a key phase in the development of online presence for mainstream news media.

## Comparing Online News Sites

Studies of U.S. newspapers at the end of the 20th century, as they moved online (see Barnhurst, 2002, 2010a, for summaries), showed that early thinking about the new medium had a millennial quality, promising to redefine journalism as an analytical and context-providing activity that could break the bounds of geography, with a

bright future for journalists and a better-informed public. Reporters had already begun electronic newsgathering and said that working online was making news stories more complex, interrelated, and contextual. Although newspaper publishers moved quickly to establish web editions, they were slow to add online capabilities, and some observers predicted catastrophe unless journalism adapted. Local newspaper sites excluded some print stories to preserve value for subscribers, but online versions used the same text as print. Online editions also focused on local markets despite the global reach of the medium.

By the middle of the new century's first decade (see Barnhurst, 2010b, for a summary), studies of U.S. news online indicated that newspaper publishers were adopting more web features. A content analysis of 83 online newspapers from 1997 to 2003 showed more varied content updated more frequently and with more interactivity, although mostly as links to reporters' e-mail addresses (Greer and Mensing, 2004), but smaller newspapers lagged behind the more sophisticated sites of large and medium newspapers. Others at mid decade were catching up. Home pages from 24 high-circulation U.S. dailies increased interactive content from 2004 through 2006, but smaller news organizations tended to focus less on national or international coverage (Tremayne, Weiss, and Calmon Alves, 2007). Hard news topics had the most frequent updates, but breaking topics such as accidents and crime showed the most growth. The political blog became a common fixture, increasing the presence of journalists' opinions and linking primarily to mainstream sites and sources (Singer, 2005).

Although online news at mid decade had begun to diverge from print, the two remained similar in how they informed the public. Print front pages and web home pages of major newspapers had similar lead stories initially, but frequent updates online meant the top stories were usually different within twelve hours (Greer and Mensing, 2004). Web editions favored breaking news and international, crime, and accident stories, compared to analytical coverage of government, politics, health, and sports in print. A comparison of print and online editions for six U.S. newspapers at the time found little difference in the amount of political information aimed at mobilizing readers (Hoffman, 2006). The news organizations ranged across locations,

status, size, and content, but usually published identical information useful for citizens to attend an event (location), to make contact with politicians or political groups (identification), or to model their behaviors and actions (tactics).

Studies of the press online in other countries in the mid 2000s showed similar results. Newspaper sites in Scandinavia were not yet creating a 'dynamic and dialogic form of journalism' online (Engebretsen, 2006: 4). The sites rejected so-called shovelware (mere uploading of content from print editions) for almost half of all news stories and a majority of locally produced stories, but the online content was more superficial, ran shorter, and had fewer sources. In two Argentine newspapers, content in print and online editions overlapped more from 1995 to 2005 as online updates increased, especially for public affairs stories (Boczkowski and De Santos, 2007). In Canada the Montreal *Gazette* ran more stories and more international coverage online, principally because of expanded wire service content, but the print edition was richer in sources and in other aspects of content (Gasher and Gabrielle, 2004).

Research comparing online and print editions by the mid 2000s focused on the medium or short term and tended to look at incommensurate aspects of content or measures of length and other characteristics. But the studies shared a concern over how the move online was continuing tendencies toward sensational, entertaining, homogenous, and low-cost content, with implications 'for the health of the press, the public, and any effort to rebuild a democratic political culture' (Scott, 2005: 109).

The new long journalism hypothesis provides fertile theoretical ground and a basis for comparison because the associated project has examined the U.S. press from more than a century of newspaper content (Barnhurst and Mutz, 1997), as well as a quarter century of television news (Steele and Barnhurst, 1996) and two decades of public radio news (Barnhurst, 2003). In the era leading up to the internet, changes in news content moved away from named individuals in favor of groups and officials, away from the local scene to cover larger domains, and away from denotative reports to incorporate more journalists' opinions, all in longer stories.

Building on that baseline data, two studies replicated the original longitudinal research on newspapers by examining their online editions. A study of their form online found that web editions in 2001

reproduced the substance of their print editions in ways that related similarly to readers (Barnhurst, 2002). The sites' content continued to evolve along patterns set earlier, with longer stories containing more explanations and emphasizing groups and officials (Barnhurst, 2010a), but journalists were drawing connections among more events and making the content more local—and the stories usually had the same text online and in print.

The study reported here enlarges the baseline data to shed light on whether patterns other studies found—such as the growth of brief spot news of crime and accidents, expanded wire content, and continued uniformity of political news in both editions—extend beyond the short to mid term. Replicating measures of length, topics, sources, and the like over time can show whether U.S. journalism is moving toward sensational, commercial news. Did news sites prolong old patterns found in the authoritative and analytical 'new long journalism'? Or did they continue their shift toward local, event-centered reporting as they adapted online? The answers can suggest how journalists are adapting to serve the public in the internet era.

## Designing the Study

The middle of the 2000s was a key moment in the evolution of news (Boczkowski, 2004; Li, 2006). Online communication had been widespread for a decade, and websites were universal among U.S. news organizations. Web 2.0 had emerged, with social media, blogging, and content interactivity on wikis, opening opportunities for innovation on news sites and giving rise to an expectation of interactivity on both sides of the Atlantic (d'Haenens, Jankowski and Heuvelman, 2004; Matheson, 2004). Although challenges loomed for industry profitability and job security, the dramatic changes later in the decade had not yet reached crisis stage. By 2005 the time was ripe to examine how the content of news was faring online, replicating the study in 2001 (Barnhurst, 2010a). Using the same three sites—the national New York Times, regional Chicago Tribune, and statewide Portland Oregonian—would add to tracking data going back to the 1890s (Barnhurst and Mutz, 1997). Although no random sample exists for 125-year-old news outlets, the selection does bridge geographical regions and news organization size and orientation. In the online studies the sites also spanned the main currents in web news development (Barnhurst, 2002, 2010a).

During three consecutive weeks in late June 2005, a trained assistant drew a purposive sample of stories, because the incommensurable archives to each news site did not allow random sampling (see Riffe, Lacy and Fico, 1998). The time frame excluded the distortions of holidays and other predictable major events, in what journalists call a slow news period best suited to reveal routine rather than exceptional content. For each topic the assistant searched the website, page by page following the order of the navigation bars, and then used the internal search engine to find other related stories (some always fall outside the page linking structure of the sites). Story selection followed the protocol established previously (Barnhurst and Mutz, 1997), continuing until each topic had a total of 40 stories from each site.

In training, coders first calibrated against the previous study by recoding a small portion of the 2001 sample, checking the results against the original coding sheets, and repeating the process until testing as close as possible to the original (the main coder did both studies). Coders recorded general information about the site, date, and topic of each story in the new sample, as well as counting the following elements of content: individuals and their roles, groups, and their identification (who); current events (what); past and future periods and changes over time (when); locations ranging from street addresses to foreign countries (where); and explanations of events (how and why). Coders also rated the length of the story (on a scale from 1 for very brief to 5 for very long), its emphasis (from 1 for the most event-centered reporting to 10 for the most general news analysis), and tone (from 1 for negative to 5 for positive, with 3 for mixed, ambiguous, or neutral).

After the initial coder processed a small sample of stories, an identically trained coder went through the same procedure. The reliability was good (averaging .89) and ranged in predictable ways (from .97 to .80), with coefficients higher for simple counts and lower for the ratings. Testing the results for potential error included comparing them against knowledge of the news organizations (based on a decade of observing their content plus interviews with some producers, reported in earlier studies, Barnhurst 2002, 2010a) and testing whether sampling error might account for differences (analysis of variance, F, with post hoc Sheffe tests, see the Appendix). What follows pre-

sents only results that proved significant in statistical tests and that were relatively large (Ziliak and McCloskey, 2008).

## Finding Changes After a Decade Online

The 2005 data contain some reversals in trends that had run for more than a century, but the shifts were not uniform across topics and news outlets. The topics had always differed somewhat, but had moved in concert. Over the previous century all topics ran longer and became more analytical and complex, politics and jobs stories more so than crime or accident stories. The same had been true of different outlets—the *New York Times* running the longest and most complicated news, the Portland *Oregonian* doing the opposite, and the *Chicago Tribune* taking a middle path—but the three followed the same direction over the long run. By 2005 they were exploring different paths for their online editions.

## Length, Emphasis & Tone

The first basic question is whether the news in 2005 had grown longer, following the trend established over the previous century. On the scale, news stories in print grew from just under 2 in 1894 to just above 3 in 1994 (see Barnhurst and Mutz, 1997, for all data from the previous century). By 2001 news stories had grown a bit more, to just above 3.5 on the scale (see Barnhurst, 2010a, for all data from 2001). The 2005 stories show a decrease in length overall, dropping below 3 on the scale (Table 1).

A marked shortening of stories (to 1.11) occurred on the *Oregonian* site, which had often run the shortest stories. The other two sites registered smaller declines in length. Accident stories, consistently the shortest until the 1970s, when crime stories overtook them, fell in length. Crime and political topics also ran shorter, but employment stories stayed about the same as in 2001. The relative length of the different topics in the sites followed long-term trends, except for crime on NYTimes.com, which ran longer than jobs stories. Political stories ran longest across all three sites both years.

A more challenging question is whether news grew more analytical, another long-term trend. During the previous century, emphasis on analysis grew on the scale, starting below 2 in 1894 and peaking at 3 in 1974 before dropping back somewhat, then rebounded by

2001. In the 2005 stories the emphasis dropped off but still ran in line with historical trends. The emphasis by 2005 approached levels in media known for analysis and opinion, such as NPR (Barnhurst, 2003).

Table I Length, Emphasis & Tone

Length as the mean rating of articles on a scale from I (the shortest) to 5 (the longest). Emphasis as the mean rating of articles on a scale from I (the most event centered) to I0 (the most general news analysis). Explanations as the mean number of times articles explained how and why. Tone as the mean rating of articles on a scale from I (the most negative) to 5 (the most positive). All means by content topic and per website.

		Overall	By Topic			
	_		Politics	Jobs	Crime	Accidents
All Sites	Ν <sup>†</sup>	480	120	120	120	120
Length		2.55	2.94	2.63	2.64	2.00
Emphasis		3.76	4.48	4.13	3.49	2.93
Explanations	How	1.73	1.68	1.59	1.69	1.98
	Why	0.84	1.20	0.94	0.73	0.48
Tone		2.94	3.18	3.14	2.59	2.86
Per Site	Ν <sup>†</sup>	160	40	40	40	40
New York Times						
Length		3.64	4.20	3.45	3.70	3.23
Emphasis		4.24	5.33	4.38	3.83	3.45
Explanations	How	0.69	0.98	0.48	0.80	0.50
	Why	1.02	1.68	1.28	0.83	0.30
Tone		2.68	2.75	2.58	2.65	2.75
Chicago Tribune						
Length		2.91	3.40	3.38	3.20	1.68
Emphasis		3.63	4.23	4.23	3.48	2.58
Explanations	How	1.00	0.58	0.43	0.68	2.34
	Why	0.66	0.90	0.78	0.55	0.43
Tone		2.70	2.58	2.80	2.33	3.10
Portland Oregonian						
Length		1.11	1.23	1.08	1.03	1.10
Emphasis		3.41	3.90	3.80	3.18	2.78
Explanations	How	3.51	3.49	3.87	3.59	3.10
	Why	0.84	1.03	0.78	0.83	0.73
Tone		3.45	4.23	4.05	2.80	2.73

<sup>†</sup>The numbers of cases for each site and topic are the same in all the subsequent tables.

Analytical tendencies grew on NYTimes.com, while declining on the other two sites, especially ChicagoTribune.com. Among topics the growth continued for analysis and interpretation in political and crime stories, following the pattern in blogs (Singer, 2005), but went down for the other two, especially accidents. The emphasis on analytical judgments did not decline in proportion to story length in 2005—stories were clearly shorter but only somewhat less interpretative. News analysis was higher than in any year studied in the 20th centu-

ry, so that the long-term trend continued after an up-tick in the 2001 data.

Some of the components of news analysis might include references to other time periods (explored later) and explanations of how and why events occurred. The mean number of times that stories explained events grew from just under 2 in 1894 to just above 2 in 1994, a small increase that peaked in 1974. In 2001 stories from the sites increased explanations, but by 2005 the frequency dropped. Only the *Oregonian* site continued to explain frequently the how of news stories. But the topics followed previous explanatory patterns, with politics leading, followed by employment, crime, and accidents (following Tremayne, Weiss, and Calmon Alves, 2007). The *Tribune* site explained accidents the least.

The tone of reports in previous research remained close to neutral from 1980 through 2000, starting off slightly positive and then slipping toward the negative side (Barnhurst, 2003), but political coverage was generally more negative. In 2001 the three sites ran fairly negative politics stories (2.83), but by 2005 all stories had become more positive, coming close to the neutral point on the scale. The *Times* and *Tribune* sites stayed the same, but the *Oregonian* site became more positive (up from 2.98 in 2001). Political and crime reports were the most negative in 2001 (at 2.73), but in 2005 politics stories became more positive. Accidents, which had a neutral tone in 2001, became more negative in 2005, and crime coverage became the most negative, especially compared to the upbeat political and job coverage.

Although the continuously shrinking length reversed itself in 2005, the long-term trend toward more emphasis on news analysis continued. The *Oregonian* site was the outlier in tone, especially for politics and employment coverage. Other sites were explaining how less often. Explaining why in the stories concentrated in political (vs. accident) coverage, as expected. Understanding what contributed to the patterns calls for a look at changes in the other components of reporting: who, what, when, and where.

Who

The previous century saw changes in who appeared in the news. The number of persons named in stories declined, and being identified in news increasingly required a description, usually of one's group affiliations. But more groups appeared independently. The roles that individuals played began to shift, with fewer main actors in events, so that more of the voices were officials and outside sources. Named persons fell from more than 1 per story in 1894 to below .04 in 1994 and became negligible in 2001. By 2005 the numbers rebounded (Table 2).

Table 2
Who in Topics
Mean number of times (and in what way) articles mentioned persons, their roles in the news, and groups by topic for all three internet newspaper sites.

	Overall	By Topic			
		Politics	Jobs	Crime	Accidents
Persons					
Named only	0.06	0.15	0.03	0.06	0.01
Named and described	4.43	6.23	3.58	5.05	2.87
Described only	0.79	0.42	0.28	1.56	0.91
Roles					
Individual actors	2.62	1.48	2.84	4.37	1.80
Officials	2.11	4.53	0.58	2.13	1.23
Outside sources	0.29	0.22	0.55	0.21	0.19
Journalists	0.04	0.08	0.02	0.06	0.01
Groups					
Named	2.68	3.22	2.92	2.32	2.25
Described	1.73	2.68	2.18	1.24	0.80
Total	4.36	5.80	5.10	3.49	3.05

Politics continued to differ from other topics, especially employment and accidents. Political stories were most likely to identify a person just by the name, but only rarely. As in 2001 the most common practice was to name and describe persons, but the average declined (from 4.98 in 2001). Topics differed across the board, with politics naming and describing the most and accidents the fewest persons per story. Describing a person without giving a name was rare, but some crime and fewer accidents stories identified individuals that way. Overall from 2001 to 2005 one person on average had disappeared from every two stories.

Individual actors or victims, followed by politicians, were the most common roles persons played in stories. Besides dominating politics stories, politicians and government officials were important in crime stories. Others predominated in employment coverage and shared the stage with officials in accident stories. Persons in all roles

appeared less often in job stories and accident stories. The declines tended to disconnect key players from their stories. Fewer politicians appeared in politics stories, and fewer actors and victims appeared in accident stories compared to 2001. But the news stories focused more on persons involved in crime by 2005, increasing by one person per story, especially individual actors.

The average number of groups in stories declined from 2001. The reports most often identified groups by name alone, and groups appeared most in politics and next in employment stories—analytical news. Accident coverage had the fewest. Patterns for identifying groups continued from 2001, but persons for all topics except jobs came to outnumber groups by about one per story, a turn-around from previous years.

Table 3
Who on Sites
Mean number of times (and in what way) articles mentioned persons, their roles in the news, and groups, by internet newspaper site and topic.

		Overall	By Topic			
			Politics	Jobs	Crime	Accidents
New York Times						
Persons	Named	0.11	0.28	0.03	0.10	0.03
	Both	4.53	6.53	2.90	5.70	2.98
	Described	0.97	0.85	0.43	1.60	1.00
Roles	Actors	2.53	1.35	2.58	5.10	1.10
	Officials	1.91	4.30	0.33	2.05	0.95
	Outside source	0.49	0.38	0.80	0.40	0.40
	Journalists	0.06	0.13	0.00	0.08	0.03
Groups	Named	2.87	3.93	2.65	2.85	2.05
•	Described	1.96	4.03	2.45	0.88	0.48
	Total	4.71	7.70	5.10	3.53	2.53
Chicago Tribune						
Persons	Named	0.06	0.18	0.05	0.00	0.00
	Both	4.03	5.80	3.30	4.50	2.53
	Described	0.85	0.33	0.30	1.80	0.98
Roles	Actors	2.46	1.30	2.65	3.85	2.03
	Officials	2.15	4.65	0.53	2.20	1.23
	Outside source	0.25	0.28	0.45	0.18	0.10
	Journalists	0.06	0.10	0.03	0.10	0.00
Groups	Named	2.27	2.60	2.85	1.75	1.88
	Described	1.54	1.85	1.95	1.63	0.75
	Total	3.81	4.45	4.80	3.38	2.63
Portland Oregonian						
Persons	Named	0.02	0.00	0.00	0.08	0.00
	Both	4.73	6.35	4.53	4.95	3.10
	Described	0.55	0.08	0.10	1.28	0.75
Roles	Actors	2.88	1.80	3.30	4.15	2.28
	Officials	2.29	4.63	0.90	2.13	1.50
	Outside source	0.13	0.00	0.40	0.05	0.08
	Journalists	0.01	0.00	0.03	0.00	0.00
Groups	Named	2.89	3.13	3.25	2.35	2.83
	Described	1.68	2.15	2.15	1.23	1.18
	Total	4.56	5.25	5.40	3.58	4.00

The overall picture of who appeared in stories continued long-term trends away from persons generally, with some interesting reverses, especially for named individuals. Key persons appeared less often in politics and accidents reports but more often in crime. The decline in groups after a spike in 2001 continued the ups and downs of the last several decades, but the overall trend was to increase mentions of groups. The results suggest a tentative return of individuals to the news.

A closer look within the three sites found the pattern continued for journalists usually to name and identify sources (Table 3).

NYTimes.com identified an appreciable number of sources by name alone and used one unnamed source per story on average. The *Oregonian* site rarely did either, mostly to cover crime. In the roles of those appearing in the stories, the websites differed. The *Times* site relied most heavily on official sources, and groups appeared frequently in the *Times* political coverage. In relying on officials, presenting persons, and citing groups, NYTimes.com hewed most closely to the longer trends found in previous studies.

#### What & When

Over the previous century stories reported fewer events (what), and their time frames (when) changed. Current events fell from three events for every two stories in 1894 to one per story, but the reports referred more often to other times periods (from 1.4 in 1894 to 1.7 in 1994). After moving online the websites increased slightly the events in the average story (1.16) in 2001. By 2005 another small increase meant that one-fifth of stories reported more than one current event, but references to the past and future tripled and references to change over time doubled. The average story went from including two current, past, or future events in 2001 to almost three in 2005 (Table 4).

Political stories were the most complex temporally, referring the most to the past and the future. Jobs stories talked the most about changes over time, making employment a temporal process. Accident stories focused on events in the present as expected (Tremayne, Weiss, and Calmon Alves, 2007). But the three news sites diverged. In the previous century all three outlets tended to move in concert. The *Times* generally followed a one-event-per-story pattern but included the most events from other periods. The *Tribune* had the fewest references to change and to other times, especially the future, and the *Oregonian* drew the most connections among current events. By 2005 the *Times* site continued to place current events in relation to other times, while the *Tribune* site moved in the opposite direction and the *Oregonian* site focused more on the now.

Table 4
What & When
Mean number of events included in articles and mean number of references to time periods.

	Overall	By Topic			
All Sites		Politics	Jobs	Crime	Accidents
Events	1.20	1.25	1.14	1.13	1.28
Past events	0.94	1.34	0.88	0.94	0.58
Future events	0.45	0.68	0.59	0.32	0.21
Total	2.59	3.27	2.61	2.39	2.07
Change in time	0.20	0.20	0.49	0.02	0.11
New York Times					
Events	1.15	1.25	1.05	1.08	1.23
Past events	1.40	1.90	0.93	1.83	0.95
Future events	0.60	1.03	0.63	0.50	0.25
Total	3.15	4.18	2.61	3.41	2.43
Change in time	0.28	0.40	0.65	0.05	0.03
Chicago Tribune					
Events	1.14	1.23	1.08	1.13	1.15
Past events	0.67	1.18	0.85	0.38	0.28
Future events	0.24	0.30	0.38	0.18	0.13
Total	2.05	2.71	2.31	1.69	1.56
Change in time	0.16	0.05	0.40	0.00	0.18
Portland Oregonian					
Events	1.31	1.28	1.30	1.20	1.45
Past events	0.74	0.95	0.88	0.63	0.53
Future events	0.51	0.73	0.78	0.28	0.25
Total	2.56	2.96	2.96	2.11	2.23
Change in time	0.18	0.15	0.43	0.00	0.13

The increases in the what and when by 2005 continued changes first appearing in 2001, such as bucking the previous trend for current events while continuing the older pattern of citing events from other time periods. The changes suggest some ways that journalism practice responded to conditions emerging during the first decade online.

#### Where

Over the long term, news content had shifted away from the smallest locations toward larger geographic domains, contrary to common belief about U.S. news. Events at street addresses declined by a third from 1934 to 1994 (from 1.4 to 0.8 references per article) and events at distant locations grew from 1894 (0.1) to 1994 (0.3). Both trends continued in 2001 and 2005 (Table 5).

Table 5
Where
Locations, from the closest and most distant, as the mean number of references in articles. Mean distance as indexed on a scale with low scores for events at street addresses, followed by towns and cities, states, regions, nations, and other nations.

	Overall	Ву Торіс			
All Sites		Politics	Jobs	Crime	Accidents
Street address	0.41	0.19	0.18	0.57	0.68
Town or city	0.94	0.70	0.91	0.96	1.18
State	0.58	0.61	0.63	0.53	0.54
Region	0.15	0.04	0.22	0.16	0.18
Nation	0.43	0.52	0.78	0.29	0.14
Other nation	0.40	0.55	0.40	0.29	0.37
Distance	3.41	3.88	3.84	2.98	2.94
New York Times					
Street address	0.06	0.08	0.00	0.08	0.08
Town or city	0.44	0.30	0.23	0.63	0.60
State	0.36	0.40	0.23	0.40	0.43
Region	0.14	0.03	0.10	0.15	0.28
Nation	0.64	0.78	1.15	0.45	0.18
Other nation	0.64	0.80	0.68	0.38	0.73
Distance	4.36	4.64	4.86	3.76	4.17
Chicago Tribune					
Street address	0.30	0.03	0.13	0.63	0.43
Town or city	0.94	0.35	1.18	0.95	1.28
State	0.40	0.45	0.38	0.23	0.55
Region	0.15	0.00	0.30	0.13	0.18
Nation	0.40	0.55	0.75	0.20	0.10
Other nation	0.38	0.75	0.18	0.35	0.23
Distance	3.32	4.37	3.56	2.79	2.56
Portland Oregonian					
Street address	0.86	0.48	0.43	1.00	1.55
Town or city	1.44	1.45	1.33	1.30	1.68
State	0.98	0.98	1.30	0.98	0.65
Region	0.16	0.10	0.25	0.20	0.10
Nation	0.26	0.23	0.43	0.23	0.15
Other nation	0.19	0.10	0.35	0.15	0.15
Distance	2.55	2.61	3.12	2.39	2.09

Street addresses in the news have waned continuously since the 1930s, when three appeared for every two stories. The rate dropped so that fewer than half of the articles in 2001 included a street address and dropped further in 2005. Foreign locations have grown fairly consistently, from only one story in ten in the 1890s to more than one in four in the 1990s, and then to more than one in three by 2001. In 2005 news articles covered foreign locations about as often as

street addresses. Slightly fewer articles referred to a town or city, but mentions increased for state, regional (especially), national, and foreign locations.

Accident and crime stories were much more local, jobs stories tended toward larger domestic areas, and political stories pushed toward international locations. The locations of accident and crime stories might account for the local focus found online in other countries (e.g., Engebretsen, 2006). The stories mentioned a town or city most often, and politics stories were the most distinct from accident stories. The three websites presented locations to match their character as news organizations, with the *Oregonian* site outstripping the others in covering smaller locations, the *Times* site doing the same for national and international places, and the *Tribune* falling in between. The pattern was most pronounced in the case of politics.

The distance index (developed in Barnhurst and Mutz, 1997) summarizes the results. The *Times* site scored highest in 2005, followed by the *Tribune* and then the *Oregonian* sites. Political stories scored highest on the index for any topic, jobs next, and crime and accidents last. The overall distance index had dropped dramatically by 2001, after newspapers settled online. Despite an increase in 2005, the index was still below any measure during the 20th century, suggesting a turn toward nearby places.

## Comparing Online to Print

An important question remaining is how much the online content resembled the print version. Articles online in 2001 'shoveled' or reused either identical or substantially the same content from print. A post-hoc comparison of one-tenth of the study articles, drawn at random and stratified by site and by topic, showed the two editions diverging by 2005 (Table 6).

Two-thirds of the stories online and in print were identical or mostly so, with changes only to the headline or dateline, for example. Other research found a similar pattern emerging (Engebretsen, 2006; Gasher and Gabrielle, 2004). Only one story in six appeared with greater changes to the text in both editions. Perhaps for space reasons a full story might run online but only as a brief in print. A difference not seen in the previous study is that a sixth of the stories online had no print counterpart. For both differences more than half of the affected stories came from wire services.

Table 6
On-line vs. Print Editions

Percentage of on-line sample\* stories differing from the corresponding stories in the print edition, first overall and by newspaper site and by topic, then broken out by topic within each newspaper site.

	All	Newspaper sites			Topics				
		N. York Times	Chicago Tribune	P. Ore- gonian	Polit.	Empl.	Crim.	Accid.	
Identical	39.58	25.00	25.00	62.50	50.00	25.00	33.33	33.33	
Similar (small changes)	27.08	6.25	50.00	12.50	25.00	16.67	33.33	33.33	
Different (large changes)	16.67	37.50	12.50	0.00	8.33	8.33	33.33	16.67	
Online only, not in print	16.67	31.25	12.50	6.25	16.67	50.00	0.00	16.67	

	Politics		Emple	Employment		Crime	Crime			Accidents		
	NYT	CTrib	P Ore	NYT	CTrib	P Ore	NYT	CTrib	P Ore	NYT	CTrib	P Ore
Identical	75	0	100	25	50	25	0	50 <sup>1</sup>	50	0	0	100
Similar	0	75 <sup>1</sup>	0	0	0	50	25	25 <sup>1</sup>	50	0	100 <sup>3</sup>	0
Different	25 <sup>1</sup>	0	0	0	25	0	75 <sup>1</sup>	25	0	50 <sup>1</sup>	0	0
Web only	0	25 <sup>1</sup>	0	75³	25	25	0	0	0	50 <sup>2</sup>	0	0

<sup>\*</sup>Representing a 10 percent sub-sample, drawn at random from the study sample, stratified by paper and topic.

The sites differed in predictable ways, the smallest reusing more print-edition material and the largest reusing less. The *New York Times* site reran fewer than a third of its print edition stories; the *Chicago Tribune* reran three-quarters, and the Portland *Oregonian* shoveled even more print content (84.25 percent) onto its site. The *Times* used the most wire stories online in reedited form (93.75 percent of differing stories), and the *Oregonian* used none. The cost of wire service stories aligned the sites with economic differences among the parent organizations.

The differences among topics aligned with journalism practice. Political content is among the most important in journalism, and all of the staff-produced stories on politics were the same or mostly so online and in print, as other research showed (Greer and Mensing, 2004). The wires provided half of the accident stories, but a quarter of crime and employment stories. Professional expectations keep as much original reporting as possible in both editions, reducing, for instance, wire copy to a brief in the print edition but retaining a staff reporter's full story online (Barnhurst, 2012a). Only one of the sub-

<sup>&</sup>lt;sup>1, 2, 3</sup> Indicates number of wire stories, each story representing 25 percent of the cell.

sample wire stories had identical text in both editions, but three-fourths of all web-only stories came from wire services.

The breakout of topics by newspaper indicates how resources and practice interrelate. The *Times* staff produced little on accidents or jobs but more on crime and politics. The *Tribune* staff edited wire copy for the web for all its accident and half its crime and politics stories, a luxury unavailable to the *Oregonian* staff. At opposite ends of the spectrum, accident reporting at the *Oregonian* was identical in print and online, and most political reports in the *New York Times* were identical on NYTimes.com.

## Explaining the Changes

U.S. journalism after a decade online was in ferment, in some ways continuing older trends toward long, explanatory news and in other ways experimenting with aspects that resembled what journalists had produced a half or full century before. Political stories followed the oldest trends—toward analytical reporting with explanations from officials and groups and referring to other events in time and to the largest, most important domains. The results give longterm confirmation to other short-term research on political coverage (Greer and Mensing, 2004; Hoffman, 2006). Political reporters continued to write the longest stories, and despite a small decline in 2005 the averages for length aligned with the long-term trend. The same applied to the emphasis on news analysis (as against an eventcentered focus): politics was the most analytical topic. Although analysis declined overall, in line with a century-long trend, political news stayed analytical. Explanations of how and why events occurred dropped the least in political stories.

Some tendencies in political coverage extended to other topics, especially employment, but politics stories most closely followed older trends for who appeared, for what to include, and for when and where. Except for the number of individuals identified by name alone, which increased for all topics, political reporting had the markers of long journalism: the most officials and groups as sources, the most references to other time periods, and the largest domains, especially national and international (with the highest distance index).

Accident (and to a lesser degree, crime) stories experimented with older kinds of breaking or spot news content. Reversing a long-

term trend, accident coverage became as short as all stories from the 1950s, confirming other studies of accident coverage online (Greer and Mensing, 2004; Tremayne, Weiss, and Calmon Alves, 2007). Accident reports become much less analytical and more episodic but tended to explain how accidents happened if not why. The stories also grew more negative, contrary to the general change in tone for 2005. Accident coverage had fewer individual actors and victims and paid less attention to groups, a measure that moved up and down periodically in its general upward trend. Unlike the long journalism of political reports, accident stories provided the least past and present context for the current events. And accident news was the most local. referring the most to street addresses and to town or city but the least to the national context. Accidents scored lowest on the distance index, confirming other studies on the local focus of U.S and European news online (Engebretsen, 2006; Tremayne, Weiss, and Calmon Alves, 2007).

Given the opposite tendencies of 2005, the outlets lined up in ways that fit their purview, strength, market position, and history. The *Times*, always slow to change, followed the older trend toward long journalism. It ran the longest, most analytical stories online, explaining the why most often and adopting the most negative tone. It relied the most on official sources (but the fewest politicians) and used journalists as authorities the most, it referred to other time periods with the greatest frequency, and it covered the largest domains. NYTimes.com embodied the authoritative characteristics of 20th century journalism.

The Portland *Oregonian* site by contrast ran the shortest, least analytical stories, while explaining the most often how events happened and adopting the most positive tone. It relied the least on official and journalist sources and the most on individual actors and politicians, and it named the most groups (without identifying them further). It also included the highest number of current events in its stories. The *Chicago Tribune* site tended to stand between the others except in two aspects. The *Tribune* site named, described, and included the fewest groups overall, a pattern that applied especially to political stories. It reported the fewest current events per story and related that one event the least often to the past, future, and change over time. Events in the *Tribune* had the simplest temporal context.

What accounts for the divergence in news by 2005? One explanation would blame the internet for redefining news. A smaller outlet might have shifted to shorter reports of nearby accidents and crime under pressure from new technologies, which were affecting revenues and then staff resources. But besides its technological determinism, the explanation discounts the advantages a larger outlet can gain by experimenting with technology. The explanation also ignores the tendency of all the sites to continue long-journalism practices when it came to political news. Politics is a core beat for reporting, and informing the citizenry is central to the public mission of journalism.

Another explanation would see the changes as experimentation, the attempts by journalists and news outlets to balance older commitments to public information with opportunities and pressures online. News online yields direct knowledge of readers viewing pages and clicking on links, activities that accident and crime stories may prompt. The distinctiveness of the *Times* site and of politics stories may continue experiments in public service. Research has continued to criticize mainstream news sites for being slow to innovate (e.g., Seelig, 2008), and a review of recent studies shows a shift away from print—online comparisons to attend to new kinds of content and interactivity online (Barnhurst, 2012b). Although 'spot' or minor content online since 2005 remained shorter and telegraphic, the older trend toward long journalism returned in force and predominated on mainstream news sites.

Clearly U.S. news content was in flux. The evidence shows that in some ways the twentieth-century redefinition of news continued in 2005, toward a longer form of journalism suitable for explaining events and placing them in context. But in the ferment occurring a decade into online news internationally (Matheson, 2004), other changes, especially the reversals for including individuals and covering nearby events, seemed to presage a return to an older definition of news as brief, local, and just the facts—a mythical definition of U.S. news since the era of Joseph Pulitzer. But other definitions of news were already circulating internationally, such as the 'myth of interactivity' (Domingo, 2008: 680), encouraging innovation online. In the moment before U.S. newspapers entered what observers and congressional hearings considered a crisis, the industry reached an key phase of experimentation online, 'raising hell' to attract attention in a new, more-competitive market changing news content in ways not seen for

decades.

## References

- Barnhurst, K.G. (2002) 'News Geography & Monopoly: The Form of Reports on U.S. Newspaper Internet Sites', *Journalism Studies* 3(4): 477–489.
- Barnhurst, K.G. (2003) 'The Makers of Meaning: National Public Radio and the New Long Journalism', *Political Communication* 20(1): 1–22.
- Barnhurst, K.G. (2010a) 'Technology and the Changing Idea of News: 2001 U.S. Newspaper Content at the Maturity of Internet 1.0', *International Journal of Communication* 4: 1082–1099.
- Barnhurst, K.G. (2010b) 'The Form of Reports on U.S. Newspaper Internet Sites, an Update', *Journalism Studies* 11(4): 555–566.
- Barnhurst, K.G. (2012b) 'The Form of Online News in the Mainstream U.S. Press, 2001–2010', *Journalism Studies* 13(5): forthcoming.
- Barnhurst, K.G. (2012b) 'The Content of Online News in the Mainstream U.S. Press, 2001–2010', *Communication @ the Center*, pp. 231–53. ICA Theme Book 2012. Ed. Steve Jones. New York: Hampton Press.
- Barnhurst, K.G. and D. Mutz (1997) 'American Journalism and the Decline in Event-Centered Reporting', *Journal of Communication* 47(4): 27–53.
- Boczkowski, P.J. (2004) Digitizing the News: Innovation in Online Newspapers. Cambridge, MA: MIT Press.
- Boczkowski, P.J. and M. De Santos (2007) 'When More Media Equals Less: Patterns of Content Homogenization in Argentina's Leading Print and Online Newspapers', *Political Communication* 24(2): 167–180.
- d'Haenens, L., N. Jankowski, and A. Heuvelman. (2004) 'News in Online and Print Newspapers: Differences in Reader Consumption and Recall', *New Media & Society* 6(3): 363–382.
- Domingo, D. (2008) 'Interactivity in the Daily Routines of Online Newsrooms: Dealing with an Uncomfortable Myth', *Journal of Computer-Mediated Communication* 13(3): 680–704.
- Engebretsen, M. (2006) 'Shallow and Static or Deep and Dynamic? Studying the State of Online Journalism in Scandinavia', *Nor-*

- dicom Review 27(1): 3-16.
- Gasher, M. and S. Gabrielle (2004) 'Increasing Circulation? A Comparative News-flow Study of the Montreal *Gazette*'s Hard-Copy and Online Editions', *Journalism Studies* 5(3): 311–323.
- Greer, J. and D. Mensing (2004) 'U.S. News Web Sites Better, But Small Papers Still Lag', *Newspaper Research Journal* 25(2): 98–112.
- Hoffman, L. (2006) 'Is Internet Content Different After All? A Content Analysis of Mobilizing Information in Online and Print Newspapers', *Journalism & Mass Communication Quarterly* 83(1): 58–76.
- Li, X., ed. (2006) *Internet Newspapers: The Making of a Mainstream Media*. Mahwah: Erlbaum.
- Matheson, D. (2004) 'Weblogs and the Epistemology of the News: Some Trends in Online Journalism', *New Media & Society* 6(4): 443–468.
- Riffe, D., S. Lacy, and F.G. Fico (1998) *Analyzing Media Messages: Using Quantitative Content Analysis in Research*. Mahwah, NJ: Erlbaum.
- Scott, B. (2005) 'A Contemporary History of Digital Journalism', *Television & New Media* 6(1): 89–126.
- Seelig, M.L. (2008) 'An Updated Look at Trends in Content and Web Page Design in News Web Sites', *Electronic News* 2(2): 86–101.
- Singer, J.B. (2005) 'The Political J-Blogger: "Normalizing" a New Media Form to Fit Old Norms and Practices', *Journalism* 6(2): 173–198.
- Steele, C.A. and K.G. Barnhurst (1996) 'The Journalism of Opinion: Network Coverage in U.S. Presidential Campaigns, 1968–1988', *Critical Studies in Mass Communication* 13(3): 187–209.
- Tremayne, M., A.S. Weiss, and R. Calmon Alves (2007) 'From Product to Service: The Diffusion of Dynamic Content in Online Newspapers', *Journalism & Mass Communication Quarterly* 84(4): 825–839.
- Ziliak, S.T. and D.N. McCloskey (2008) The Cult of Statistical Significance: How the Standard Error Costs Us Jobs, Justice, and Lives. Ann Arbor: University of Michigan Press.

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## Appendix Statistical Tests

One way analysis of variance for site by variable and for topic by variable, with post hoc Sheffe tests† (significant at least at the .05 level). Significant values indicate that the differences likely do not result from sampling error.

	Site					Торі	c				
	Р	F <sup>‡</sup>	A. NYT	B. C.T.	C. P.O.	Р	F§	a. Politics	b. Empl.	c. Crime	d. Accid.
Length	.000	321.76	BC***	AC***	AB***	.000	10.03	d***	d**	d**	a***bc**
Emphasis	.000	14.99	B**C**	A**	A***	.000	32.17	cd***	c**d***	a***b**	ab***c**
			*								
Explanations											
How	.000	238.32	C***	C***	A***	.366	1.06				
Why	.001	6.87		A**		.000		cd***	d***	a***	ab***
Tone	.000	27.28	C***	C***	AB***	.000	7.58	c**	c**	ab**	
Who											
Persons											
Named only	.044	3.15	C*		<b>A</b> *	.002	4.99	bd*	a*		a*
Both	.152	1.89				.000	29.03	bd***c*	a***c**	a*b**d**	ac***
Described only	.009	4.73	C*		<b>A</b> *	.000	29.80	c***d*	c***d**	* abd***	a*b**c***
Roles											
Individual actors	.419	.87				.000	24.63	b**c***	ac**d*	ad***b**	b*c***
Politicians	.444	.81				.000	70.0 I	bcd***	ac***	ab***d*	a***c*
Outside sources	.000	10.17	B*C**	<b>A</b> *	A**	.000	6.63	b**	acd**	b**	b**
Journalists	.188	1.68				.198	1.56				
Groups											
Named	.025	3.71				.002	5.01	cd*		a*	a*
Described	2.44	2.44				.000	36.73	cd***	cd***	ab***	ab***
What & When											
Events	.028	3.59				.170	1.68				
Past events	.000	18.76	BC***	A***	A***	.000	8.23	b*d***	a*		a***
Future events	.000	16.28	B***	AC***	B***	.000	18.79	cd***	c**d***	a***b**	a***b***
Change in time	.024	3.75	B*	<b>A</b> *		.000	30.71	b***c**	acd***	a**b***	b***
Where											
Street address	.000	27.01	C***	C***	AB***	.000	7.34	d**	c*d**	b*	ab**
Town or city	.000	37.26	BC***	AC***	AB***	.009	3.89	d*			a*
State	.000	32.44	C***	C***	AB***	.723	.44				
Region	.000	.16				.003	4.65	bd*	a*		a*
Nation	.000	17.48	B**C** *	A**	A***	.000	29.78	b**c*d** *	a**cd***	a*b***	ab***
Other nation	.000	8.91	B*C***	<b>A</b> *	A***	.227	1.45				
Distance	.000	76.23	BC***	AC***	AB***	.000	15.66	cd***	cd***	ab***	ab***

<sup>&</sup>lt;sup>†</sup>For news sites (A, B, C) and for topics (a, b, c, d): \*\*\* = p < .001, \*\* = p < .01, \* = p < .05

## Biography & Acknowledgements

Kevin G. Barnhurst (Ph.D., 1997, University of Amsterdam) is Professor of Communication at the University of Illinois at Chicago,

<sup>&</sup>lt;sup>‡</sup>For site, the degrees of freedom are (2, 477). <sup>§</sup>For topic, the degrees of freedom are (3, 476).

where he teaches theory and research methods and political and journalism topics. He has published widely on media history and content and presented results from the long journalism project as guest professor at the University of Copenhagen and visiting scholar at the Tampere University (2009), Distinguished Fulbright Chair in Italy (2006), and Shorenstein Fellow at Harvard University (2001), where he conducted an initial study of online news. He presented this research to the Political Communication Division, International Communication Association, Chicago, May 2008, and wishes to thank Matthew Barnhurst, Timothy D. Fox, and Ryan Henke for coding and research assistance.

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# Table 1 Length, Emphasis & Tone

Length as the mean rating of articles on a scale from 1 (the shortest) to 5 (the longest). Emphasis as the mean rating of articles on a scale from 1 (the most event centered) to 10 (the most general news analysis). Explanations as the mean number of times articles explained how and why. Tone as the mean rating of articles on a scale from 1 (the most negative) to 5 (the most positive). All means by content topic and per website.

		Overall	By Topic			
			Politics	Jobs	Crime	Accidents
All Sites	Ν <sup>†</sup>	480	120	120	120	120
Length		2.55	2.94	2.63	2.64	2.00
Emphasis		3.76	4.48	4.13	3.49	2.93
Explanations	How	1.73	1.68	1.59	1.69	1.98
	Why	0.84	1.20	0.94	0.73	0.48
Tone		2.94	3.18	3.14	2.59	2.86
Per Site	Ν <sup>†</sup>	160	40	40	40	40
New York Times						
Length		3.64	4.20	3.45	3.70	3.23
Emphasis		4.24	5.33	4.38	3.83	3.45
Explanations	How	0.69	0.98	0.48	0.80	0.50
	Why	1.02	1.68	1.28	0.83	0.30
Tone		2.68	2.75	2.58	2.65	2.75
Chicago Tribune						
Length		2.91	3.40	3.38	3.20	1.68
Emphasis		3.63	4.23	4.23	3.48	2.58
Explanations	How	1.00	0.58	0.43	0.68	2.34
	Why	0.66	0.90	0.78	0.55	0.43
Tone		2.70	2.58	2.80	2.33	3.10
Portland Oregonian						
Length		1.11	1.23	1.08	1.03	1.10
Emphasis		3.41	3.90	3.80	3.18	2.78

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Explanations	How	3.51	3.49	3.87	3.59	3.10
	Why	0.84	1.03	0.78	0.83	0.73
Tone		3.45	4.23	4.05	2.80	2.73

 $<sup>^{\</sup>dagger}$ The numbers of cases for each site and topic are the same in all the subsequent tables.

## Table 2 Who in Topics

Mean number of times (and in what way) articles mentioned persons, their roles in the news, and groups by topic for all three internet newspaper sites.

	Overall	By Topic			
		Politics	Jobs	Crime	Accidents
Persons					
Named only Named and de-	0.06	0.15	0.03	0.06	0.01
scribed	4.43	6.23	3.58	5.05	2.87
Described only	0.79	0.42	0.28	1.56	0.91
Roles					
Individual actors	2.62	1.48	2.84	4.37	1.80
Officials	2.11	4.53	0.58	2.13	1.23
Outside sources	0.29	0.22	0.55	0.21	0.19
Journalists	0.04	0.08	0.02	0.06	0.01
Groups					
Named	2.68	3.22	2.92	2.32	2.25
Described	1.73	2.68	2.18	1.24	0.80
Total	4.36	5.80	5.10	3.49	3.05

Table 3 Who on Sites

Mean number of times (and in what way) articles mentioned persons, their roles in the news, and groups, by internet newspaper site and topic.

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		Overall	By Top- ic			
			Politics	Jobs	Crime	Accidents
New York Times						
Persons	Named Both Described	0.11 4.53 0.97	0.28 6.53 0.85	0.03 2.90 0.43	0.10 5.70 1.60	0.03 2.98 1.00
Roles	Actors Officials Outside	2.53 1.91	1.35 4.30	2.58 0.33	5.10 2.05	1.10 0.95
	source Journal- ists	0.49	0.38	0.80	0.40	0.40
Groups	Named Described Total	2.87 1.96 4.71	3.93 4.03 7.70	2.65 2.45 5.10	2.85 0.88 3.53	2.05 0.48 2.53
Chicago Tribune						
Persons	Named Both Described	0.06 4.03 0.85	0.18 5.80 0.33	0.05 3.30 0.30	0.00 4.50 1.80	0.00 2.53 0.98
Roles	Actors Officials Outside source	2.46 2.15 0.25	1.30 4.65 0.28	2.65 0.53 0.45	3.85 2.20 0.18	2.03 1.23 0.10

	Journal-					
	ists	0.06	0.10	0.03	0.10	0.00
Groups	Named	2.27	2.60	2.85	1.75	1.88
	Described	1.54	1.85	1.95	1.63	0.75
	Total	3.81	4.45	4.80	3.38	2.63
Portland Oregonian						
Persons	Named	0.02	0.00	0.00	0.08	0.00
	Both	4.73	6.35	4.53	4.95	3.10
	Described	0.55	0.08	0.10	1.28	0.75
Roles	Actors	2.88	1.80	3.30	4.15	2.28
	Officials Outside	2.29	4.63	0.90	2.13	1.50
	source Journal-	0.13	0.00	0.40	0.05	0.08
	ists	0.01	0.00	0.03	0.00	0.00
Groups	Named	2.89	3.13	3.25	2.35	2.83
	Described	1.68	2.15	2.15	1.23	1.18
	Total	4.56	5.25	5.40	3.58	4.00

Table 4

### What & When

Mean number of events included in articles and mean number of references to time periods.

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	Overall	By Topic			
All Sites		Politics	Jobs	Crime	Accidents
Events	1.20	1.25	1.14	1.13	1.28
Past events	0.94	1.34	0.88	0.94	0.58
Future events	0.45	0.68	0.59	0.32	0.21
Total	2.59	3.27	2.61	2.39	2.07
Change in time	0.20	0.20	0.49	0.02	0.11
New York Times					
Events	1.15	1.25	1.05	1.08	1.23
Past events	1.40	1.90	0.93	1.83	0.95
Future events	0.60	1.03	0.63	0.50	0.25
Total	3.15	4.18	2.61	3.41	2.43
Change in time	0.28	0.40	0.65	0.05	0.03
Chicago Tribune					
Events	1.14	1.23	1.08	1.13	1.15
Past events	0.67	1.18	0.85	0.38	0.28
Future events	0.24	0.30	0.38	0.18	0.13
Total	2.05	2.71	2.31	1.69	1.56
Change in time	0.16	0.05	0.40	0.00	0.18
Portland Oregonian					
Events	1.31	1.28	1.30	1.20	1.45
Past events	0.74	0.95	0.88	0.63	0.53

Future events	0.51	0.73	0.78	0.28	0.25
Total	2.56	2.96	2.96	2.11	2.23
Change in time	0.18	0.15	0.43	0.00	0.13

# Table 5 Where

Locations, from the closest and most distant, as the mean number of references in articles. Mean distance as indexed on a scale with low scores for events at street addresses, followed by towns and cities, states, regions, nations, and other nations.

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	Overall	By Topic			
All Sites		Politics	Jobs	Crime	Accidents
Street address	0.41	0.19	0.18	0.57	0.68
Town or city	0.94	0.70	0.91	0.96	1.18
State	0.58	0.61	0.63	0.53	0.54
Region	0.15	0.04	0.22	0.16	0.18
Nation	0.43	0.52	0.78	0.29	0.14
Other nation	0.40	0.55	0.40	0.29	0.37
Distance	3.41	3.88	3.84	2.98	2.94
New York Times					
Street address	0.06	0.08	0.00	0.08	0.08
Town or city	0.44	0.30	0.23	0.63	0.60
State	0.36	0.40	0.23	0.40	0.43
Region	0.14	0.03	0.10	0.15	0.28
Nation	0.64	0.78	1.15	0.45	0.18
Other nation	0.64	0.80	0.68	0.38	0.73
Distance	4.36	4.64	4.86	3.76	4.17
Chicago Tribune					
Street address	0.30	0.03	0.13	0.63	0.43
Town or city	0.94	0.35	1.18	0.95	1.28
State	0.40	0.45	0.38	0.23	0.55
Region	0.15	0.00	0.30	0.13	0.18

Nation Other nation	0.40 0.38	0.55 0.75	0.75 0.18	0.20 0.35	0.10 0.23
Distance	3.32	4.37	3.56	2.79	2.56
Portland Oregonian					
Street address	0.86	0.48	0.43	1.00	1.55
Town or city	1.44	1.45	1.33	1.30	1.68
State	0.98	0.98	1.30	0.98	0.65
Region	0.16	0.10	0.25	0.20	0.10
Nation	0.26	0.23	0.43	0.23	0.15
Other nation	0.19	0.10	0.35	0.15	0.15
Distance	2.55	2.61	3.12	2.39	2.09

Table 6
On-line vs. Print Editions

Percentage of on-line sample\* stories differing from the corresponding stories in the print edition, first overall and by newspaper site and by topic, then broken out by topic within each newspaper site.

	All	Newspaper sites			Topics					
		N. York Times	Chica- go Trib- une	P. Ore- gonian	Poli t.	Empl	Crim	Ac- cid.		
Identical	39 <b>.</b> 5	25.00	25.00	62.50	50.0	25.0 0	33.3	33.3		
Similar (small changes)	27.0 8	6.25	50.00	12.50	25.0 0	16.6 7	33.3 3	33.3 3		
Different (large changes)	16.6 7	37.50	12.50	0.00	8.33	8.33	33.3	16.6 7		
Online only, not in print	16.6 7	31.25	12.50	6.25	16.6 7	50.0 0	0.00	16.6 7		

	Politi	Politics		Empl	Employment			Crime				Accid	Accidents				
	NYT	CTri b	P Ore		NYT	CTri b	P Ore	_	NYT	CTri b	P Or	îe	NYT	CTri b	-	P Ore	
Identical	75	5 (	) 1(	0 (	25	50	) 25	5	0	50	1	50	0		0	100	

Similar	0	75 <sup>1</sup>	0	0	0	50	25	251	50	0	100 <sup>3</sup>	0
Different	251	0	0	0	25	0	75 <sup>1</sup>	25	0	50 <sup>1</sup>	0	0
Web only	0	251	0	75³	25	25	0	0	0	50 <sup>2</sup>	0	0

<sup>\*</sup>Representing a 10 percent sub-sample, drawn at random from the study sample, stratified by paper and topic.

 $<sup>^{\</sup>scriptscriptstyle 1,\ 2,\ 3}$  Indicates number of wire stories, each story representing 25 percent of the cell.

# Appendix Statistical Tests

One way analysis of variance for site by variable and for topic by variable, with post hoc Sheffe tests $^{\dagger}$  (significant at least at the .05 level). Significant values indicate that the differences likely do not result from sampling error.

	Site					Topi	С				
	р	$F^{^{\sharp}}$	A. NYT	B. C.T.	C. P.O.	р	$\mathit{F}^{\mathbb{S}}$	a. Poli- tics	b. Empl.	c. Crime	d. Ac- cid.
Length	.00	321.	BC***	AC***	AB***	.00	10.0	d***	d**	d**	a***bc
	0	76				0	3				* *
Emphasis	.00	14.9	B**C*	A**	A***	.00	32.1	cd***	c**d**	a***b*	ab***c
	0	9	* *			0	7		*	*	**
Explanations											
How	.00	238. 32	C***	C***	A***	.36	1.06				
Why	.00	6.87	B**	A**		.00	16.1	cd***	d***	a***	ab***
Tone	.00	27.2	C * * *	C * * *	AB***	.00	7.58	C**	C**	ab**	
	0	8				0					

## Who

	Persons									
		.04	3.15 C*		A*	.00	4.99 bd*	a*		a*
	Both	.15	1.89			_	29.0 bd***c	a***c* *	a*b**d ***	ac***
	Described only	.00	4.73 C*		A*	.00	29.8 c***d*	c***d* *	abd***	a*b**c ***
	Roles									
	Individual actors	.41 9	.87			.00	24.6 b**c** 3 *	ac**d*	ad***b **	b*c***
	Politicians	.44 4	.81			.00	70.0 bcd***	ac***	ab***d *	a***c*
	Outside sources	.00	10.1 B*C** 7	A*	A**	.00	6.63 b**	acd**	b**	b**
	Journalists	.18	1.68			.19 8	1.56			
	Groups									
	Named	.02	3.71			.00	5.01 cd*		a*	a*
	Described	2.4	2.44			.00	36.7 cd***	cd***	ab***	ab***
۱۸/	hat & When									
**	Events	.02	3.59			.17	1.68			
	Past events	.00	18.7 BC***	A***	A***	.00	8.23 b*d***	a*		a***
	Future events	.00	16.2 B***	AC***	B***	.00	18.7 cd*** 9	c**d** *	a***b* *	a***b* **

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Change in time	.02 3.75 B*	A*	.00 30.7 b***c* 0 1 *	acd*** a**b** *	b***
Where					
Street ad- dress	.00 27.0 C*** 0 1	C*** AB***	.00 7.34 d**	c*d** b*	ab**
Town or city	.00 37.2 BC*** 0 6	AC*** AB***	.00 3.89 d* 9		a*
State	.00 32.4 C*** 0 4	C*** AB***	.72 .44 3		
Region	.00 .16 0		.00 4.65 bd*	a*	a*
Nation	.00 17.4 B**C* 0 8 **	A** A***	.00 29.7 b**c*d 0 8 ***	a**cd* a*b*** **	ab***
Other na- tion	.00 8.91 B*C** 0 *	A* A***	.22 1.45 7		
Distance	.00 76.2 BC*** 0 3	AC*** AB***	.00 15.6 cd*** 0 6	cd*** ab***	ab***

 $<sup>^{\</sup>dagger} For news sites (A, B, C) and for topics (a, b, c, d): *** = p < .001, ** = p < .05$ 

<sup>&</sup>lt;sup>‡</sup>For site, the degrees of freedom are (2, 477). For topic, the degrees of freedom are (3, 476).