

ORIGINAL ARTICLE

Understanding Journalism Through a Nuanced Deconstruction of Temporal Layers in News Narratives

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This article proposes a nuanced analysis of the temporal spectrum in news narratives, beyond the three conventional temporal orientations (past-present-future), thus affording a more complex understanding of journalism and its varied storytelling patterns. Combining qualitative and quantitative content analysis of print and online news items in the United States and Israel, this framework is used to evaluate and compare different journalistic cultures and media technologies in relation to public time. Based on hierarchical cluster analysis, the article offers a definition for “news” which associates between 5 clusters of temporal layers and different journalistic roles: updating (present and immediate past/future), reporting (recent past), contextualization and ritualistic functions (midrange to distant past), analysis (near future), and projection (far/conjectured future).

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But I began then to think of time as having a shape, something you could see, like a series of liquid transparencies, one laid on top of another.

—Margaret Atwood, *Cat’s Eye*

A headline on the front page of *The New York Times* in late May 2012 read: “China Output Slows Sharply; Ripples Feared.” The lead paragraph elaborated:

A nationwide real estate downturn, stalling exports and declining consumer confidence have produced what a Chinese cabinet adviser, quoted on the official government Web site **on Thursday**, characterized as a ‘sharp slowdown in the economy.’ Though the Chinese economy continues to expand, construction workers are losing jobs in droves and retail sales grew **last month** at the slowest pace in **more than three years**. Investments in fixed

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assets have increased more slowly **this year** than in any year **since 2001**. (*The New York Times*, 25 May 2012; our emphasis)

This relatively short excerpt, 80 words all together, contains a number of temporal markers referring to the past—the year 2001 (the deeper context), “the slowest pace in more than three years,” “last month,” “Thursday” (the preceding day)—alongside references to a process that began in the past but is still taking place in the deictic present of the article (“slows sharply,” “continues to expand”), and will probably impact the future (“ripples feared”). While not all news items demonstrate such temporal complexity, time and temporality deserve closer scholarly attention inasmuch as they are cornerstones in the construction of any narrative (Ricoeur, 1984; Rimmon-Kenan, 2002). In particular, a thorough understanding of time as a constitutive element of news stories can serve as a basis for a more comprehensive conceptualization of journalism and enable a systematic categorization of its narrative patterns, as well as a comparative assessment of the roles it plays in relation to public time (Barnhurst, 2011; Bell, 1995; Tenenboim-Weinblatt & Neiger, 2015).

In this article, we seek to provide a nuanced deconstruction of the temporal spectrum in news narratives, beyond the three main temporal orientations (past, present, and future), based on qualitative and quantitative content analysis of print and online news items in the United States and Israel. This deconstruction then serves to evaluate the role of temporality in news production across different cultures and types of media, and to offer an integrated and empirically grounded definition of news based on time as the organizing axis.

Temporal dimensions of news narratives

In his seminal study “Time and Narrative,” Paul Ricoeur underscores the reciprocal relationships between narrative and human time:

The world unfolded by every narrative work is always a temporal world. ... Time becomes human time to the extent that it is organized after the manner of a narrative; narrative, in turn, is meaningful to the extent that it portrays the features of temporal experience. ... I shall strive to demonstrate that the circle of narrativity and temporality is not a vicious but a healthy circle, whose two halves mutually reinforce one another. (1984, p. 3)

Indeed, individuals and societies shape their understanding of the past, present, and future by constructing narratives organized by time (Zerubavel, 2003). As journalists are prominent storytellers in contemporary society (Roeh, 1989), the narrative qualities of news have been widely recognized and investigated by communication and journalism scholars (e.g., Bird & Dardenne, 2009; Tenenboim-Weinblatt, 2008). However, relatively little attention has been directed to the role of time in the construction of news narratives (Barnhurst, 2011).

Nevertheless, temporal dimensions have always been part of the answer to the long-standing question “What is news?” as suggested, for example, by the common definition of news as the report of recent events. The present study joins a body of scholarship that problematizes this prevalent view. First, scholars have observed that

journalism is not limited to covering events, but often provides interpretation and analysis (see Salgado & Strömbäck, 2012, for a review of the notion of “interpretive journalism”). Barnhurst and Mutz (1997) showed that event-centered reporting had declined in U.S. newspapers during the 20th century, as is evidenced by an increasing number of references to the past and future in news stories. Barnhurst (2013) established the validity of these findings for U.S. online news as well, while Fink and Schudson (2014) pointed to a trend in U.S. journalism whereby, from the 1950s to the 2000s, the number of “contextual stories” increased in comparison to “conventional reporting.”

Additional studies have focused specifically on the roles played by the news media vis-à-vis the distant past or the future. The former time span is explored in research on collective memory in journalism, an established subfield that regards journalists as agents in constructing societies’ narratives about their pasts (Zelizer & Tenenboim-Weinblatt, 2014). The burgeoning literature in this field investigates both commemorative and noncommemorative journalistic practices (Schudson, 1997), from the ways in which (traumatic/important) past events are commemorated in the news (e.g., Carlson & Berkowitz, 2014; Meyers, Neiger, & Zandberg, 2014) to the various uses of the past in evaluating, explaining, and interpreting current events (e.g., Edy, 1999; Lang & Lang, 1989; Zelizer, 2008).

Another important, albeit less developed research strand focuses on the role of the journalist in premeditating the future (Grusin, 2010). Neiger (2007) suggested dividing the news discourse regarding the future into four levels of speculation: predictable future, informed assessment, speculative assessment, and conjectured future. According to Tenenboim-Weinblatt (2013), the news media may serve as agents of prospective memory, insofar as they set the social “to-do list” by linking interpretations of the past to future-oriented tasks. Other studies of future-oriented news have pointed to its narratological qualities, including strategies of precontextualization (Oddo, 2013), discursive manipulations of temporalities in reports of future events (Jaworski, Fitzgerald, & Morris, 2003), and the creation of future-oriented suspense (Tenenboim-Weinblatt, 2008).

What is missing, however, is an integrative, comprehensive examination of the various temporal layers in news narratives. Accordingly, this study attempts to weave together the different strands in the literature discussed above, extend the analysis beyond the traditional three-way temporal distinction (past–present–future), and explore the grouping and the interplay of different layers of time in news stories. A second set of aims concerns the comparative dimensions of news temporalities. The temporal dimensions of news have remained largely outside of comparative journalism studies: Studies on temporal aspects of news, within all strands of research discussed above, have usually focused on one national context, while conceptualizations and typologies of media systems and journalistic cultures have not given justice to temporal dimensions (e.g., Hallin & Mancini, 2004; Hanitzsch, 2007). By examining Israeli and U.S. media outlets, this study seeks to offer initial insights

on cross-national temporal differences in news narratives, as a new window to understanding journalistic cultures.

Additionally, the study compares temporal representations in print and online media. Several scholars have addressed time-related changes and challenges faced by journalism in the digital environment (e.g., Boczkowski, 2010; Reich & Godler, 2014; Usher, 2014), but mainly from the perspective of time constraints and the value of immediacy in journalistic production. The temporal dimensions of news narratives *per se* have received little attention, and the limited comparative research in this area has focused on the three main temporal orientations. Such studies have revealed two main patterns: the more pronounced future orientation of print news as compared to online news (Tenenboim-Weinblatt & Neiger, 2015); and the continuous increase in the overall number of references to the different time periods in both print and online news (Barnhurst, 2011, 2013). Other questions, however, are still unanswered: Do print and online news narratives differ in their temporal layering? Is there a relationship between different technological platforms and news cycles, on the one hand, and the different layering of past and future, on the other? This study explores these issues.

Method

The study employs a combination of quantitative and qualitative cross-cultural and cross-media (print and online) content analysis of news stories published in leading media outlets in the United States and in Israel. In the first stage, a categorization of temporal layers in news stories was developed, based on an inductive-qualitative examination of actual news coverage anchored in a grounded theory approach (Glaser & Strauss, 1967; Strauss & Corbin, 1997). The categorization process involved two steps: (a) identifying temporal indicators in news stories—for example, various grammatical markers (such as tenses and temporal adjectives or adverbs) and other references to events or developments that took place in the past, are currently taking place, or are yet to occur (such as the mention of particular past events or dates); and (b) sorting the results obtained into distinct temporal categories, or layers, according to journalistic logic (e.g., correspondence to the news cycle) and linguistic classifications of tenses (e.g., Comrie, 1985). Eleven such layers emerged (see Table 1): five pertaining to the past (ranging from distant to immediate past), one to the present, and five to the future (ranging from immediate to distant/conjectured future). The specific time span attached to each layer reflects the temporal scope of the textual markers and references assigned to that layer, with reference to the sociolinguistic conventions associated with that respective category. However, to the extent that news stories do not always clearly specify time spans, these intervals are meant to serve as heuristics rather than precise measures.

The above categorization of temporal layers in the news served as a platform for a coding scheme developed for the analysis of the news items in this study's corpus. The scheme was designed to identify, in each item investigated, the various temporal layers and to single out the predominant one. For example, the opening story about

Table 1 The Temporal Span of News Stories

	1	2	3	4	5	6	7	8	9	10	11
Distant past	Long-range past	Midrange past	Recent past	Immediate past	Present	Immediate future	Near future	Midrange future	Foreseeable future	Distant and unknown future	
More than 10 years ago	6 months to 10 years ago	48 hours up to 6 months	The last 48 hours	The last few hours	Live and/or extended present	The coming hours	The coming 48 hours	48 hours to 6 months	The coming 6 months up to 10 years	More than 10 years or the conjectured	
... Deeper Context. ....	... Typical Working Range ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...	... Deeper Analysis ...

the Chinese economy operates with six temporal layers: the distant past, providing the deeper context (the year 2001); the long-range past (“the slowest pace in more than three years”); the midrange past (“last month”); the recent past (“Thursday”: the last 48 hours); the present (“continuous trends”); and the conjectured future (“ripples feared”). The focus, however, is on the current, ongoing situation, as is also evidenced by the headline: “China output slows sharply.” The scheme was tested and refined through a preliminary intercoder reliability evaluation, using news items that were not included in the main corpus. The fine tuning concluded when Cohen’s Kappa coefficient for intercoder reliability reached a minimum of .70 for all questions.

The coding scheme was then applied to the corpus, which comprises 732 news stories published in print and online news outlets during 2012, in the United States and Israel. The two U.S. newspapers are *The New York Times* and *Los Angeles Times*, and the Israeli newspapers are *Haaretz* and *Yedioth Ahronot*. News websites include *The New York Times Online* and *Fox News Online* in the United States, and *Ynet* and *Walla!* in Israel. The outlets selected for the sample represent influential news sources, based on their popularity (circulation/reach) and/or their status as elite/opinion-leading media. Thus, both *The New York Times* and the *Los Angeles Times* are prestigious dailies that rated among the five most circulated newspapers in the United States during the period of the study (Alliance of Audited Media, 2012). Similarly, during that period, *The New York Times Online* and *Fox News.com* were among the five most popular news websites (based on Alexa.com data). Two additional reasons for selecting the *Fox News* website were its different political orientation in relation to the three other U.S. news outlets (conservative vs. liberal) and its comparability to the two Israeli websites in the format of its home page (the presentation of the top stories and the amount of text per story). Among Israel’s print outlets, *Haaretz* is considered the national elite newspaper (often compared to *The New York Times*), while *Yedioth Ahronoth* is the most widely circulated paid-for newspaper, with an average national exposure rate of 37.6% during the first half of 2012 (Avraham, 2012b). *Ynet* is a popular news website of the Yedioth Ahronoth publishing group, competing with *Walla!* for the title of the most popular Israeli news website (see data in Avraham, 2012a). Except for *Ha’aretz*, which is known for its left-liberal editorial line, the other Israeli news outlets selected do not exhibit a consistent political orientation.

The decision to focus on Israel and the United States aligns with a comparative strategy that combines the “most similar” and “most different” approaches (Sheafer & Wolfsfeld, 2009). While the media system in the United States follows Hallin and Mancini’s Liberal model (2004), the Israeli system is somewhat of a hybrid: It is close to the Liberal model in its market orientation and professional journalistic ethos, but bears the marks of other models as well (Peri, 2012). In particular, Israeli journalism practices and role perceptions combine interventionist tendencies with Western-oriented journalistic values (Tenenboim-Weinblatt, 2014; Hanitzsch et al., 2011).

Within the news outlets in each country, the focus was on the top news stories: items published on the front page of a given print newspaper and in the top section

of a website's home page. A news item was defined as a graphically and thematically distinct content unit that has its own headline. The coding process encompassed the headlines, subheadlines, and lead paragraph of each unit, which together can be seen as a "concise narrative," that is, "parts of texts that bestride the entire temporal framework of the story" (Shenhav, 2015, p. 62). Thus, a typical item contains 20–100 words. The sample consisted of two constructed weeks of front/home pages, randomly sampled over a 10-week period (1 April to 9 June 2012). Because homepages are dynamic, they were sampled twice a day. Overall, therefore, the sample includes 462 online items and 270 print items.

The 732 news items in the sample were coded by four trained students. Final intercoder reliability was assessed by double-coding a subset of 122 items from two randomly selected days. Cohen's Kappa for the variable of Dominant Temporal Layer was .85 ($p < .001$), and ranged from .71 to .89 for the questions gauging the presence of each temporal layer in the text ($p < .001$). Quantitative analysis was employed to compare the use of the different temporal layers in different types of news outlets and cultural contexts, as well as to identify characteristic constellations of temporal layers in the news stories (based on a hierarchical cluster analysis; see Matthes & Kohring, 2008). The patterns identified in the quantitative phase were further investigated and elaborated through qualitative analysis, which captured dimensions that do not readily lend themselves to a quantitative approach (e.g., contextual and symbolic aspects). We start the presentation of the findings by a detailed deconstruction of the 11 temporal layers yielded by the analysis, and then move to the results of the comparative analysis and the clustering patterns.

The spectrum of temporal layers

Linguists and literary scholars generally concur that the minimal narrative consists of two temporally ordered events (Labov, 1972; Rimmon-Kenan, 2002). In our sample, the concise narrative in the headlines and the lead paragraph of a news story, whether print or online, incorporated on average 2.52 temporal layers: 70% of the front page/home-page stories used two or three layers, 16% operated with four to seven layers, and the remaining 14% (mainly shorter online stories) focused on a single layer. Following is a detailed discussion and demonstration of the 11 temporal layers:

1. *Distant past (more than 10 years ago)*. This layer, which was present in 13% of the news stories, typically pertains to the realms of history and collective memory. While the relationships of these two domains are a subject of controversy (see review in Olick, Vinitzky-Seroussi, & Levy, 2011), for the purposes of this work they are bundled so as to mark references to events that occurred more than a decade before the publication of the news story (which does not imply that all collective memories belong to this category). An example with a historical emphasis is an item in *Haaretz* focusing on the work of researchers who documented "a thousand years of Hebrew language" and displaying an image of a 14th-century Hebrew

scroll (6 April 2012).¹ However, as a dominant layer, the distant past is the most palpable in “anniversary journalism,” when news reporting marks the anniversary of culturally significant events (Kitch, 2002), and the thrust of the coverage is commemoration. An example from our sample is a front-page story of the *Los Angeles Times* marking the 20th anniversary of the 1992 Los Angeles riots through a focus on one of the victims in these events (30 April 2012).

2. *Long-range past (6 months to 10 years ago)*. If the distant-past layer is typically present when the media address momentous past events which the public is assumed to be familiar with, the long-range past layer usually pertains to less-known occurrences that are relayed, for the most part, to provide background and context. In the study, this category emerged as an important temporal layer in news reports (it was present in about a third of the items), but was rarely the main focus of a story. An exception in this regard is an item that appeared on 25 May 2012, on the *Walla!* site under the headline “Report in the United States: Israel Is Mistreating Refugees.” The headline, phrased in the present tense, referenced a report published the day before, but the story centered on data collected 12–24 months earlier. The use of the present continuous tense (“is mistreating”) conveyed that the mistreatment of refugees was not over.
3. *Midrange past (48 hours up to 6 months)*. This temporal layer, which was also present in about one-third of the items in the corpus, can be positioned in the boundary zone joining exposition and newsworthiness: It provides the immediate context for the events depicted in the story, while at the same time rendering the information newsworthy by virtue of its relative proximity to the “here and now.” Notably, the temporal span of this layer is shorter than that of the two discussed above, that is, less than 6 months versus many years. Thus, it is not the “thickness” that warrants this layer’s presence in the news, but rather the interplay among different dimensions of newsworthiness within the story. Several items manifesting this layer referred to murder cases that were under police investigation at that time.
4. *Recent past (the last 48 hours)*. This layer, which was most frequent among the layers referring to the past and which best fits the print news cycle, usually comprises newsworthy events. A typical example is a *New York Times* report on resolutions passed the day before (“Security Council Condemns Syria over Massacre,” *The New York Times*, 28 May 2012). Other items centered on important nonpublic events (accidents, crime, etc.) that were still assumed to be relevant a day after they occurred. Among the examples are the arrest of the deputy health minister’s driver for the possession of drugs (*Haaretz*, 6 June 2012), or the beheading of a woman by her husband the day before (*Walla!*, 25 May 2012).
5. *Immediate past (last few hours)*. This layer relates to breaking news, and thus best fits the online cycle. Only in rare cases are the morning editions of print newspapers in a position to report (or speculate) on occurrences that took place during the night, for example, the headline “Efforts Throughout the Night to Prevent the General Strike” (*Haaretz*, 27 March 2012). News sites, on the other hand, can deliver

information on the fly about unscheduled occurrences and spot news such as accidents or disasters (e.g., “Deadly Earthquake Hits Northern Italy,” *The New York Times Online*, 29 May 2012), and also about developments in unfolding events (e.g., a report on clashes in Syria during the previously announced ceasefire, *Ynet*, 10 April 2012). This layer was present in about a fifth of the items in the sample.

6. *The present*. Production-wise, the news-making process can be construed as affording more than one deictic “present”: the present of the reporter while producing the item, the present of the editorial staff while processing it, the present of the material production of the item, and the more open present of its consumption. In online news, there need not to be a significant gap between publication and consumption, but in print news, a gap of a few hours is in order. This study designates “the present” as the moment of consumption (the morning of publication for print newspapers), to provide a reference point for coders regarding the layer to which the item should be relegated. Nevertheless, in conceptualizing the intricate position of the present in the news, the other “presents” must be given due consideration as well.

From another angle, in the process of the qualitative analyses, we identified in news narratives two main types of “present.” One is the “restricted present” that comprises occurrences during the report, such as live or ongoing events (Scanell, 2014). Such “present,” which has distinct temporal and spatial boundaries, is more prevalent in online media. The other is the “broader present” or the “extended present,” which encompasses processes that started in the past, are currently evolving, and continue into the future. As two examples of the “restricted present,” we can cite (a) a report on a missing college student (*Fox News* website, 28 May 2012): “Several police agencies are now searching the area for clues and have dispatched search dogs under the bridge” and (b) a live report from the funeral of the Israeli prime minister’s father: “Ben-Zion Netanyahu is being laid to rest” (*Ynet*, 30 April 2012), the latter with a small video camera icon next to the headline for those wishing to watch the ceremony. An example of the “extended present” is a front-page story in *The New York Times* under the title “Drug Trafficking and Raids Stir Danger on the Mosquito Coast” (24 May 2012), which describes the development of a calamitous situation in Honduras. Overall, the present emerged as by far the most prevalent layer in the news.

7. *Immediate future (next few hours)*. This layer extends over events that are scheduled for the next few hours. Such a limited time span is technologically challenging for the printed press, as it requires anticipating events of the morning. Thus, references to this layer in the print media were scarce, but the few that were found often served as the focal points of the text and referred to events that were almost certain to happen. On Memorial Day, for instance, some of the stories in the Israeli newspapers focused on the events planned for that day. Overall, this layer was present in 5% of the stories in the sample.

8. *Near future (the 48 hours following the “next few hours”)*. Anticipating upcoming events and developments is a key role assumed by journalists (Grusin, 2010; Neiger, 2007). A straightforward way to approach this task is by covering scheduled events, as in the *Fox News* website report on the upcoming launch of a spacecraft (17 May 2012) or in a *Los Angeles Times* item regarding an IPO on Nasdaq (*Los Angeles Times*, 17 May 2012). Another accepted practice is to mention events that are likely—but not certain—to take place in the coming 48 hours, for example, a *Walla!* item on the Israeli cabinet legal adviser’s anticipated decision regarding the future of a West Bank settlement (*Walla!*, 3 June 2012). This narrative strategy is conducive to anticipation and suspense, and possibly to greater reader engagement. References to the near future were present in 7% of the stories.
9. *Midrange future (48 hours up to 6 months)*. Among the layers spanning the future, this was the most prevalent (appearing in more than a quarter of the stories). As we move away from the present in the direction of the future, speculation increases and the reporter’s degree of commitment to the veracity of the content declines. This is expressed in the types of epistemic modality in the text, as well as in the level of evidence the reporter displays for the propositions stated. Still, the journalists tend to include their assessments and predictions, however speculative, as part of the news-making routine. A prominent example of a scheduled event that the media begin discussing months in advance is upcoming elections. Our sample includes several such cases, where, although the focus is frequently on political actors’ current actions, an upcoming election serves as the frame of analysis. Other items, however, are more speculative, touching on plans rather than scheduled events (e.g., policy plans).
10. *Foreseeable future (next few years)*. Although this layer covers the longest period of time (9.5 years all together, from 6 months to 10 years from the publication date), it was the least salient in news narratives (being present in less than 5% of the items). At issue are typically long-term assessments regarding developments and processes, on both the national and the personal level, especially in the areas that feed hard news, namely, politics, economics, and security. One example is an item on the *Fox News* website centering on Obama’s healthcare program (Obamacare). The headline ran: “New Study Shows Obamacare Increases Deficit” (*Fox News* website, 10 April 2012), and the writer argued that the deficit would grow in the coming 10 years, despite the President’s claims to the contrary.
11. *Far and unknown future (more than 10 years or the conjectured future)*. This layer, which was present in 14.5% of the stories, involved futuristic discourse in the form of either discussions of occurrences or outcomes of developments that are expected to take place in more than 10 years; or references to occurrences or developments that may (or may not) take place in the remote future, and whose possible time frame the journalist is unable to predict. An example is the *Fox News* website headline, “Atrocities Could Trigger Military Intervention in Syria” (28 May 2012). The statement cited in the title was made by Martin Dempsey, the U.S. Chairman of the Joint Chiefs of Staff, with reference to a possible action—which has not been taken

so far (a few years later) but which has not yet been categorically ruled out. A characteristic example from the Israeli context discusses Iran's nuclear plans: "Dagan [head of the Mossad]: Sanctions will stop Iran" (*Ynet*, 17 May 2012); it outlines conditions that could force Iran to give up its nuclear program.

Temporal layers across media and national contexts

While the full range of temporal dimensions was identified across all the news outlets and countries included in the sample, some notable differences in the use of the layers emerged among different types of media, as well as between Israel and the United States (see Table 2).

As compared to online news, the concise narratives (consisting of the headlines and the lead paragraph) in print stories tended to encompass a larger part of the temporal spectrum, with more emphasis on the extreme layers. Thus, 20% of all print newspaper articles manifested the distant past layer, compared to only 8.9% of online narratives. Similarly, 44.1% of print news items referred to the long-range past (the penultimate past layer), compared to only 27.9% of online stories. The same holds true for the most speculative future layer: 19.3% of print stories invoked distant and unknown future, as compared to only 11.7% of online stories. At the same time, the past temporal layer closest to the present (the immediate past) was almost exclusively the domain of online news (31.8% of online items, as compared to 1.1% of print stories). Likewise, the immediate and near future layers were more pronounced in online news (although the prevalence of the immediate future layer was not statistically significant). The present was more prevalent in print media, albeit—notably—mostly an extended present, which is typical of stories covering broader trends, processes, and narratives that continue from the past to the present (40% of print items) and/or extend from the present into the future (24% of print items).

From a temporal perspective, therefore, print news stories provided a fuller narrative spectrum than online news stories, which tended to present updates on recent and upcoming events. This trend is also apparent in the higher average number of layers per story in print versus online news items (2.74 layers for print items vs. 2.40 for online items; $p < .001$, t -test). This finding is consistent with the division of labor that Usher describes in her ethnography of the *New York Times* (2014). Print stories constitute what *NYT* journalists called "second-day stories" in the wake of continuous online updates: They are written in the evening for the print version, with the purpose of providing added value, through a fuller consideration of the context and consequences of the depicted events.

It is important to note at this point that the differences detected between print and online news should not be attributed to the higher quality or highbrow bent of news outlets in the print category—and, conversely, to the more popular nature of online outlets. Indeed, these differences remain also within the more elitist and the more popular news outlets in each category. Thus, for example, the layers of the distant and long-range past are significantly less prevalent in the undeniably high-quality *NYT*

Table 2 Percentages of the Eleven Temporal Layers in Print versus Online News Stories, and in the United States versus Israel^a

Layer	Type of News Outlet		Country	
	Print	Online	United States	Israel
Distant past	20.0* (1.5)	8.9 (2.6)	17.5* (1.9)	8.2 (2.5)
Long-range past	44.1* (8.5)	27.9 (4.8)	39.3* (5.8)	28.2 (6.5)
Midrange past	34.1 (9.6)	32.5 (10.8)	40.1* (9.8)	25.6 (11.0)
Recent past	44.4* (17.0)	29.4 (14.5)	25.2 (13.0)	45.4* (18.0)
Immediate past	1.1 (0.4)	31.8* (14.1)	19.1 (6.9)	22.0 (11.3)
Present	68.5* (38.1)	54.5 (27.5)	70.3* (41.1)	48.5 (21.1)
Immediate future	3.7 (1.5)	5.8 (0.6)	1.3 (0.0)	9.0* (2.0)
Near future	4.1 (1.9)	8.7* (4.5)	2.1 (0.8)	12.1* (6.5)
Midrange future	30.0* (13.3)	23.4 (12.1)	25.5 (10.3)	26.2 (14.9)
Foreseeable future	4.4 (0.8)	5.2 (2.2)	6.4 (2.4)	3.4 (0.8)
Distant/unknown future	19.3* (7.4)	11.7 (6.3)	14.6 (8.0)	14.4 (5.4)

^aThe first number in each cell represents the percentage of news items that use a specific layer in the headlines and lead paragraph (these percentages add up to more than 100 in each column, because more than one layer can be present in a given news story). The number in parentheses represents the percentage of news items where a specific layer serves as the dominant layer in the story (these percentages add up to 100 in each of the four columns). An asterisk marks that the given layer is significantly more prevalent in a specific type of news outlet (in relation to the other type) or in a specific country (in relation to the other country), based on Chi-square tests (at < .05 level).

Online than in all highbrow print newspapers in our sample. The former layer was identified in 9% of the *NYT Online* stories but in 14–29% of the stories in the printed *New York Times*, *Los Angeles Times*, and *Haaretz*. Similarly, the long-range past layer appears in 46–50% of the stories in these three quality print outlets, as compared to 33% of the stories in the online *NYT* edition. Within the group of popular news outlets, the printed newspaper *Yedioth Ahronoth* has a much higher prevalence of the distant/unknown future (27%) than all the popular online news outlets (*Ynet*, *Walla!*, and *Fox News*: 8–11%).

Cross-nationally, some of the differences between print and online news cultures, particularly in regard to the past and present layers, echo the comparison between United States and Israeli journalistic cultures. Relative to Israeli news narratives, U.S. items have a significantly higher prevalence of the more remote past layers (see Table 2). At the same time, in Israel these time frames are more likely to be the dominant layers of news stories. It could thus be that, while U.S. journalists tend to provide more contextual information within reports on current events than their Israeli counterparts, the Israeli news media have the propensity to construct the front/home pages as a cultural-ritual space for the national community. Our sample happens to include Memorial Day in both Israel (25 April 2012) and the United States

(28 May 2012). In Israel, 75% of front-page/home-page items published on Memorial Day contained stories related to the historical events commemorated, compared to 19% in the United States.

It also appears that news stories in the United States are anchored in the present to a greater degree than in Israel, where this function of deictic grounding is shared between the present and the recent past (see Table 2). Notably, the above finding regarding the centrality of the present in U.S. news narratives is not a derivative of the journalistic convention to use the present tense in headlines when reporting on past events (see instructions to journalists in Holmes, Hadwin, & Mottershead, 2014). Indeed, the coders were instructed to annotate the temporal layers based on the substantive time reference rather than the grammatical tense. Thus, while headlines such as “Envoy Arrives as Civilian Anger Rages in Syria” (*The New York Times*, 29 May 2012) or “U.S. Boots Syrian Envoy as Pressure Mounts on Assad” (*Fox Online*, 29 May 2012) employ the present tense, they include two temporal layers each: a recent/immediate past event (Kofi Annan’s arrival in Damascus the previous day, and the expulsion of a Syrian diplomat from the United States that morning, respectively) is embedded within a developing, ongoing situation (the present layer). Alternatively, the narrative may center on the present trend, as in another front-page headline on the same day: “Obama’s Lead in California Remains Solid” (*LA Times*, 29 May 2012).

The greater emphasis on context and ongoing trends in the U.S. media may also explain the small but significant difference between Israel and the United States in the average number of temporal layers per item comprising the headlines and lead (2.43 in Israel vs. 2.61 in the United States; $p < .05$, t -test). This small gap also exists within the group of printed highbrow newspapers, with an average of 2.67 temporal layers for *Ha’aretz*, compared to 2.83 layers for both the *NYT* and *LA Times*.

Finally, the future layers were generally found to be more prevalent in Israeli news narratives. For instance, the future-oriented headline of *Haaretz*’s lead story, published on the same day as the above past- and present-oriented United States examples regarding the Syrian war, read: “The Syrian rebels: We will take control over the chemical weapons after Assad” (29 May 2012). The most pronounced difference between Israel and United States in our sample emerged in relation to the layers of the immediate and near future, which are only marginally present in U.S. news narratives (see Table 2). At the same time, the proportion of the more distant future layers is similar in the two countries. That said, it is worth mentioning that U.S. news narratives tend to include more modal markers by way of qualifiers (e.g., “Loyalty to Syria President Could Isolate Hezbollah”; *NYT*, 6 April 2012), and cite ostensibly scientific sources to authenticate statements (e.g., “Study Claims Obamacare Would Explode U.S. Deficit”; *Fox Online*, 10 April 2012). In Israel, the need to qualify or authenticate future projections seems to be less pronounced (as demonstrated by the above headline about the Syrian rebels’ claims).

Notably, all of the significant bivariate associations displayed in Table 2 remain significant when the impact of the other factor is held constant through multivariate

logistic regressions. This indicates that the effects of the medium and the national context are mutually independent.

Typical constellations: Five temporal clusters

The next step was to examine the grouping of the different temporal layers in news narratives. Hypothetically, numerous combinations of layers are possible (e.g., if a story includes 3 temporal layers out of 11, it can be constructed in 165 different temporal combinations). It stands to reason, however, that the norms and logic of news making will favor several typical temporal constellations. To identify the latter, we entered the binary variables representing the presence/nonpresence of the different layers into a hierarchical cluster analysis (Ward's method—squared Euclidean distance). A five-cluster solution was selected for a combination of interpretability and statistical properties (cf., Matthes & Kohring, 2008). Table 3 marks the presence of each layer within each of the five clusters (i.e., the percentage of items in each cluster that include the given layer in the headlines and/or lead), and shows the percentage of items in each cluster where the given temporal layer predominates.

The first, largest cluster pivots around the present (74.2% of the articles in this cluster had a dominant present layer, with the present appearing in 83.2% of all the articles in this cluster). At the same time, it also contains the highest percentage of articles that include the immediate past and immediate future layers. This cluster can therefore be characterized as encompassing the *now* dimension. This realm typically incorporates ongoing developments in the broader present (e.g., crisis in the economy), but also relates to the more restricted present, which focuses on the *live*—events

Table 3 Cluster Analysis of Temporal Layers

Temporal Layer	Cluster 1:	Cluster 2:	Cluster 3:	Cluster 4:	Cluster 5:
	The Realm of the Present (<i>n</i> = 310)	The Recent Past (<i>n</i> = 123)	The Deeper Past (<i>n</i> = 119)	The Middle Future (<i>n</i> = 131)	Distant/ unknown future (<i>n</i> = 49)
1. Distant past	14.8/0 ^a	10.6/0	20.2/13.4	5.3/0	10.2/0
2. Long-range past	28.7/0.8	25.2/0.8	58.8/37.0	34.4/0	26.5/0
3. Midrange past	31.0/0	32.5/15.4	54.6/47.9	19.1/0	32.7/0
4. Recent past	22.3/2.6	96.7/83.7	13.4/1.7	29.8/0	26.5/0
5. Immediate past	32.9/21.3	1.6/0	12.6/0	20.6/0	8.2/0
6. Present	83.2/74.2	33.3/0	37.8/0	46.6/0	65.3/0
7. Immediate future	7.1/1.9	0.8/0	3.4/0	6.9/0.8	2.0/0
8. Near future	3.5/0	4.9/0	0.8/0	24.4/19.8	2.0/0
9. Midrange future	20.6/0	15.4/0	4.2/0	72.5/70.2	12.2/0
10. Foreseeable future	3.5/0	0.8/0	4.2/0	13.0/9.2	4.1/0
11. Far and unknown future	10.0/0	5.7/0	8.4/0	6.9/0	100/100

^aThe first number in all the cells designates the percentage of articles in which the temporal layer is present in the headlines and lead. The second number designates the percentage of articles in which the temporal layer constitutes the dominant layer in the article. The bold values represent the temporal layers that are central to the interpretation of each cluster.

of the past few hours (immediate past), and those bound to happen in the upcoming several hours (immediate future).

The next two clusters cover the spectrum of the past (beyond the immediate past). Cluster 2 is coextensive with the layer of the recent past. Cluster 3 encompasses the midrange, the long-range, and the distant past, thus covering the thickest stratum of time, which stretches across the past weeks, months, and years.

The two remaining clusters bestride the future spectrum (beyond the immediate future). Cluster 4 stretches from the near to the foreseeable future (excluding the extremes—hence the label “the middle future”), covering almost the entire range of forthcoming events and expected outcomes, while Cluster 5 relates to the distant/unknown future.

Importantly, in addition to the layers that form its temporal focus, each cluster includes other layers as well. While these are not the dominant layers of the story, they nevertheless play an important supporting role. In Cluster 1 (the present and its environs), the layers of the long-range past, midrange past, recent past, and foreseeable future are each present in more than 20% of the items, in the headlines and/or lead. In other words, stories in this cluster often provide context and/or future projections as part of their framing of the events relayed. For instance, a story in *Fox Online* (6 June 2012) which announces the results of a recall race (immediate past) is summarized on the homepage as follows: “Wisconsin Gov. Scott Walker defeats Democratic opponent Tom Barrett and becomes first governor in U.S. history to survive recall election, ending months of acrimony that started when the state scaled back union rights.” Here, the event from the immediate past is positioned in relation to the distant past and the previous few months, a strategy that emphasizes the significance of the story (first governor in U.S. history) and familiarizes the reader with the preceding events. A link between the immediate past and future layers can be found in a story from the *NYT Online* (8 April 2012) which reports on a deal that had just been signed between United States and Afghanistan. The story is summarized on the front-page as follows: “Afghanistan and the United States signed an agreement on Sunday [immediate past] on night military raids that would hand responsibility for carrying out the operations to Afghan forces but allow continued American involvement [a possible future outcome].” Both the above examples suggest that the line between event-centered/episodic and contextual/interpretive/thematic stories is not clear-cut. Note, however, that neither of these examples represents the extended present (typical of print news, as is explained above), although that layer, which is concerned with broader developments and trends, is an important component of Cluster 1.

Stories in Cluster 2, which focuses on events from the recent past (the previous day or two), have a strong connection to the present as well as to other past layers. Their links to future layers, however, are rather weak. That is, news stories in this cluster tend to deemphasize future scenarios and their implications. A typical example is a front-page story from the *LA Times* (25 May 2012) about a rape conviction the day before. The narrative lead (different from the descriptive leads above, which are typical of online news) includes several past layers:

Brian Banks logged onto Facebook **last year**, and a new friend request startled him. It was the woman who, nearly **a decade ago**, accused him of rape when they were both students at Long Beach Poly High School. Banks had served **five years** in prison for the alleged rape, and now he was unemployed and weary ...

The deeper past layers in this story provide context and meaning to the reported recent event, while arousing readers' curiosity and drawing them into the narrative. Typically, for this type of story the future layers seem almost irrelevant, with the suspense being constructed within the past layers (what happened next?). Indeed, this cluster has the highest rate of stories that focus on crimes and accidents, as well as on sports and celebrities. It has the lowest rate of public-affairs stories, which have a more pronounced future orientation.

In Cluster 3, the story as a whole is oriented toward the more remote past, but the present layer often plays an important supporting role. An example is a *NYT* story (3 June 2012) with a commemorative focus, under the headline "At 9/11 Museum, Talking through an Identity Crisis." The lead's narrative style is anecdotal (akin to the above *LA Times* example, but in this case it serves as a demonstration for a larger narrative on the debates over the museum's establishment):

It seemed self-evident at the time: A museum devoted to documenting the **events of Sept. 11, 2001**, would have to include photographs of the hijackers who turned four passenger jets into missiles. Then **two and a half years ago**, plans to use the pictures were made public ...

While the narrative focuses on the proper way to tell the story of 9/11 and on the museum's history, it is anchored—as the headline suggests—in the ongoing debate over the museum's character, as a reflection of current public opinion and identity formation. This is yet another illustration of the close link between collective memory and the present, and not only the past—particularly in news narratives (Neiger, Zandberg, & Meyers, 2014; Zelizer, 2008).

The present in the items sampled was also connected to the future. Thus, while the present emerged as the dominant layer only in Cluster 1, it is salient in all the others as well, including the two future-oriented clusters (4 and 5). At the same time, whereas future layers do not play a major role in the two past-oriented clusters (2 and 3), past layers are very salient in the two future-oriented clusters (4 and 5), to the extent that the narration of anticipated events, possible outcomes, and future agendas often relies on the occurrences, patterns, and interpretations of the past. However, Clusters 4 and 5 display different levels of speculation, and thus also different linguistic manifestations of the link between the past and the future. Narratives in Cluster 4 (the middle future) tend to link the future-oriented news story to previous newsworthy developments, as exemplified by the headline "Facebook's Stumble May Cool IPOs in Silicon Valley" (*LA Times*, 29 May 2012). In Cluster 5, the past-future link may often appear more precarious, relying on analogies or longitudinal trends. A prime example for the former is an interview with then Israeli president Shimon Peres about his vision. The story begins as follows:

President Shimon Peres is not a fan of the narrative led by Prime Minister Benjamin Netanyahu when it comes to Iran and the Holocaust — to put it mildly. The comparisons to **1939 and Hitler** do not sit well with him, either. Netanyahu's Holocaust Day speech made the president uncomfortable and those who spoke with him shortly afterwards said he was profoundly unhappy with the prime minister's rhetoric, which implied that the nuclear Iran would undoubtedly spell a **second Holocaust** for the Jewish people. (*Ynet*, 4/25/12; authors' emphasis)

Here, the contemporary debate over Iran's nuclear program, as well as the political power play surrounding it, is linked to the Holocaust, within a larger narrative about the future of Israel.

Discussion

This article suggests a framework for exploring and comparing journalistic practices through analyzing patterns of time layering in news narratives. The study has identified 11 temporal layers in news narratives, examined their manifestations in different types of news outlets and national contexts, and grouped them into five major clusters. The latter are argued to correspond to distinct journalistic tasks. Cluster 1, which focuses on the present and its proximal temporal regions (the immediate past and future), foregrounds the role of the news in *updating* the public regarding unfolding events and the current state of affairs. Cluster 2 centers around the recent past, and is thus instrumental to journalism's paramount role of *reporting* on the latest occurrences and recent developments. This cluster resonates with the conventional definition of news the most closely. Cluster 3 encompasses the three temporal layers of the deeper past (the distant, long-range, and midrange past) and is thereby instrumental to the *contextualization and ritual/commemoration* functions of journalism. The narratological zone of Cluster 4, which spans from the near to the foreseeable future, allows journalists to *predict* and *analyze* possible outcomes and implications of current occurrences, while *setting the public agenda* for the near-to-foreseeable future. Finally, Cluster 5, which zooms in on the distant and unknown future, extends over the most speculative narratives. The analysis of stories in this cluster suggests that the news media may serve as agents in shaping the collective vision (Neiger, 2012).

The above roles of the media have been discussed, to various degrees, in different strands of communication and journalism scholarship. The studies range from nontemporally oriented frameworks that deconstruct cultures of journalism and journalists' role conceptions (e.g., Hanitzsch, 2007), to research into the relation between journalism and collective memory (e.g., Edy, 1999; Zelizer & Tenenboim-Weinblatt, 2014), to investigations of future projections in the news (Grusin, 2010; Neiger, 2007). Using time as the organizing axis helps weave together these separate scholarly strands. This approach has also enabled this study to suggest an integrated and empirically grounded definition of news in narratological terms using a temporal-functional perspective. Based on the framework proposed here and the findings it has yielded, news can be conceptualized as narrative that provides (a) accounts and updates regarding present states-of-affairs and/or unfolding events,

(b) reports on recent occurrences, (c) deeper context and/or commemoration of a more distant past, (d) analysis of possible implications of current events and/or anticipation of upcoming events, and (e) projections that envision and address the far or conjectured future.

The analysis has shown that news narratives lend themselves to a classification based on their main temporal foci, but also that, in each type of narrative, other temporal layers may play an important part. Unsurprisingly, the present has emerged as the most salient layer, in that it permeates all types of stories as a linchpin for the other temporal layers. The present embeds news in current affairs — in line with the primary social role of news, as well as with the notion of the present as the anchor for all narratives (Augustine, 1992; Ricoeur, 1984). Other layers were more salient in specific temporal clusters, revealing distinct patterns in the emplotment of news narratives.

We have also shown that looking at temporal layers can add nuance and insight to comparative research. The comparison of temporal layers across news technologies extends and at the same time problematizes findings of previous studies, which mostly examined the past-present-future triad in print and online news (Barnhurst, 2011, 2013; Tenenboim-Weinblatt & Neiger, 2015). The analysis has shown that print narratives tend to stretch from deeper layers of the past to the more distant future layers, while the temporal span in online media is more limited. This difference suggests that research attention may need to be shifted from the overall temporal orientation of the story (e.g., the contention that the future is more dominant in print; Tenenboim-Weinblatt & Neiger, 2015), or the overall number of references to present, past, and future events (which, as Barnhurst, 2013, claims, may be higher in some types of online stories), to the temporal length and completeness of the narrative structure, which constitutes the framing of the story. The above differences also provide content-based corroboration to the division of labor between online and print journalistic practices pointed out by Usher (2014) in her ethnography, thus attesting to its applicability beyond *The New York Times*. Future studies can examine whether and to what extent these temporal features have changed over time, for example, if time referencing in print newspapers has altered under the influence of online media. Researchers may also endeavor to plot the temporal layering across the full news text, and not only in the concise narrative encompassed by the headlines and lead. In view of the incremental nature of online storytelling (Bødker, 2015), where new segments are added as the story develops, one may anticipate patchy employment of temporal layers, as opposed to a more uniform pattern in print stories.

The comparison drawn in this study between Israel and the United States provides, to the best of our knowledge, a first glimpse into cross-cultural differences in temporal dimensions of news stories. The substantial presence of the deeper past layers in U.S. news narratives is congruent with the growth of contextual journalism in U.S. news (Fink & Schudson, 2014) and the move from event-centered to meaning-centered news (Barnhurst, 2014; Barnhurst & Mutz, 1997). In Israel, the lesser emphasis on contextualization and the increased attention to the future may be explained by the more interventionist tendencies of the Israeli journalistic culture (Hanitzsch et al.,

2011), as well as by Israel's heavy reliance on news to organize public life. The news media may rely on readers' knowledge of the previous episodes in the enfolding news narrative, without necessarily mentioning relevant prior events beyond the immediate precedents and consequences (see Baden, forthcoming; Tenenboim-Weinblatt, 2008). This hypothesis, however, needs further investigation.

The findings of this study also raise the question of which and how many temporal layers could be useful for future research. On one hand, each of the temporal clusters detected in this study focuses on a distinct temporal zone—consisting of either one primary layer (Clusters 2 and 5) or three chronologically ordered layers (Clusters 1, 3, and 4). This suggests that, at the fundamental level, the slicing of time into five major domains affords a workable framework for exploring news narratives. Furthermore, layers that were not salient—in particular the foreseeable future—may be less useful as a separate category for the more generalized content analyses. On the other hand, for in-depth narrative analyses, it may still be useful to retain the full temporal spectrum. This would make it possible to examine and compare the dynamics within news stories (e.g., the interplay of different layers of time within a narrative) and the mechanisms of relevance creation (e.g., how the news story connects between the moment of consuming the news and the temporal layers within the story). In fact, our analysis has shown that, in order to better account for cross-media and cross-cultural differences, some layers may even require further breaking down, in particular the present and the distant/unknown future.

Nevertheless, no matter which version of the temporal spectrum is adopted as a working model in any given case, be it the comprehensive or the parsimonious one, this study has demonstrated that examining the shades of time in news narratives can shed new light on journalistic forms and practices, as well as on their role in the construction of public time.

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Note

1 All quotations from the Israeli news outlets are translated by the authors.

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