

Print Is Future, Online Is Past: Cross-Media Analysis of Temporal Orientations in the News

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Abstract

This article examines the representation of past, present, and future in print and online news, while establishing a link between the temporal orientation of news stories and the constraints of the news cycle. Based on a content analysis of top news stories in the Israeli media, the study shows that a future temporal orientation is more prevalent in print media, which assume the role of projecting upcoming events, analyzing potential outcomes, and shaping collective expectations. In contrast, online news tends to assume the more commonly recognized journalistic role of informing the public on recent-past events. The discussion introduces the notion of “temporal affordances,” referring to the temporal constraints and possibilities of media technologies, which in turn can lead to distinctive content characteristics. These affordances, which connect symbolic and material dimensions, contribute to the shaping and reshaping of the functions served by divergent communication outlets in changing media landscapes.

Keywords

media and time, news cycle, traditional versus new media, affordances

News is profoundly oriented to time, in at least two senses: Its production is geared toward meeting the temporal demands of the news cycle (Boczkowski, 2010; Klinenberg, 2005; Patterson, 1998) and the resulting news stories represent societies’

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past, present, and future (Neiger, 2007; Scannell, 2014; Zelizer & Tenenboim-Weinblatt, 2014). In examining the shift to a digital news culture or the relationship between print and online news, most research has tended to focus on the ways in which temporal constraints and conditions—most notably accelerating news cycles—affect journalistic production. Little attention has been paid to the temporal dimensions of the news stories themselves, or the influence of changes in news cycles on the content of news (for notable exceptions, see Barnhurst, 2011; Boczkowski, 2010).

This article addresses and connects these two dimensions, first, by exploring differences in the temporal orientation (i.e., past, present, or future) of print and online news, and second, by investigating the idea that the constraints of the news cycle lead to differences in the temporal orientation of news stories in different types of news media, and therefore to different journalistic roles assumed by print and online news. These range from the more conventional role of providing information about what has happened in the world to future-oriented roles of prediction and the shaping of collective expectations and agendas.

Following a presentation of our theoretical framework and hypotheses, we present findings from a study which examined temporal dimensions in leading Israeli news outlets. In addition to exploring the differences between different types of media (print and online), we also examine the relationship between temporal orientations and other content-based characteristics of the news stories (event-centeredness and a public affairs orientation), in order to further to disentangle the conditions for the manifestation of different temporal orientations. We conclude by considering future research agenda and theoretical implications, focusing in particular on the idea of temporal affordances which emerges from this study.

Temporal Conditions of News Production and Their Effects

“Time affects the work of every institution, but few so substantially as the news media,” writes Thomas Patterson (1998, p. 56). The centrality of time considerations in the production of news was noted in some of the earliest newsroom ethnographies (e.g., Schlesinger, 1977; Tuchman, 1978). As observed by Schlesinger (1977), not only do time-related concerns and concepts permeate all dimensions of journalists’ work, but “for newsmen the mastery of time-pressure is a way of manifesting their professionalism” (p. 336). However, research also suggests that the era of digital news, characterized by greater volume and frequency of news, has led to increased time pressures on journalists (Boczkowski, 2010; Boyer, 2010; Plasser, 2005). Journalists are expected to produce more news in less time, and to adapt to a culture of immediacy and speed, situated within broader temporal conditions of post/late modernity (Castells, 1996; Harvey, 1989; Virilio, 2000). News cycles, once defined as “the number of hours between each issue of a newspaper” (White, 2008), are now described in continuous terms (“24-hour news cycles”), as “accelerated,” or in Klinenberg’s (2005) term as “a news cyclone” (p. 54). In this cyclone, “there is always breaking news to produce, consume, and—for reporters and their

subjects—react against” (Klinenberg, 2005, p. 54). Viewed from this perspective, the crisis of journalism, experienced most acutely by print newspapers (cf. McChesney & Pickard, 2011), is also associated with time-related factors. Newspapers are at a temporal disadvantage in relation to online news outlets and 24-hour TV news channels, while online news outlets need to compete with multiple other online players, including players who are often faster and better “adapted” to the contemporary time regime than established media institutions.

Beyond the reported stress that journalists experience as a result of time pressures (see Boczkowski, 2010; Klinenberg, 2005; Plasser, 2005), how do these temporal conditions affect editorial processes and the news product itself? One dominant line of argument suggests that time pressures negatively affect the quality of news and the ability of the news media to adequately inform the public and serve as instruments of democracy. According to this view, the demands of the news cycle lead to shortsightedness and preference of timeliness, novelty, and breaking news over accuracy, multi-sourcing, and enduring issues (Patterson, 1998; Plasser, 2005; Reich & Godler, 2014). The resulting information environment is one in which news travels “faster than the speed of thought” (Marash, quoted in Rosenberg & Feldman, 2008, p. x).

Temporal dimensions are also viewed as shaping news practices and routines by constituting the primary criterion for distinguishing between different types of news. In particular, journalism scholars have illuminated the ways in which temporal considerations underlie the distinction between hard and soft news. Hard news is viewed as that which needs to be published as soon as possible after the time of occurrence of the reported events, whereas soft news is viewed as having a looser temporality and can be published when journalists see fit (Tuchman, 1978). This temporal separation, according to Boczkowski (2009, 2010), has only grown in the production of online news. Based on Boczkowski’s ethnographic study of online news production in Argentina’s leading news outlets, the online production of soft news continues to operate under “soft” temporal constraints, whereas hard news is being subjected to increasingly tougher temporal demands.

With regard to news content, Boczkowski’s study of content homogeneity in Argentina’s leading print and online newspapers suggests that changes in temporal patterns of news production are associated with patterns of content homogeneity in both print and online news (Boczkowski, 2010; Boczkowski & de Santos, 2007). Notably, the growth in the volume and frequency of online news throughout the day was found to be tied with a large increase in content overlap between print newspapers. That is, temporal changes in the production of online news can have implications for content patterns in print media. However, there has generally been little empirical research into the relationship between changing news cycles and the production of print news in a digital media environment. Most research in this area has focused almost exclusively on online news.

In addition, little attention has been given to the ways in which temporal conditions and, more specifically, news cycles’ characteristics are manifest in the treatment of time in news stories. Barnhurst (2011) argued that changing time regimes and accelerated news cycles have had no noticeable impact on time in the news itself. Based on

findings from studies of U.S. print newspapers from 1894 to 1994 (Barnhurst & Mutz, 1997) and their online editions in 2005 (see Barnhurst, 2013), Barnhurst suggests that online newspapers are continuing the trends that were detected in print newspapers and which reflect modernist-linear perceptions of time. In particular, news coverage has been continuously expanding into the past and the future over the past decades, with the mean number of references to the past and future per article continually growing in online news (Barnhurst, 2011, 2013). In this article, we suggest that the significant temporal differences between print and online news, and the effects of changing news cycles on temporal representations in the news, may be located not in the aggregation of time references, but in the dominant temporal orientation.

Temporal Orientations in the News

News, by its common dictionary definition, is “the report of recent events” (“News,” 2014). Within academic research, answers to the question of “what is news?” are more varied and complicated, reflecting different disciplinary perspectives (Zelizer, 2004) and ranging from definitions that focus on the inherent qualities (i.e., news value) of information and events that qualify as news, to conceptualizations of news as the product of actions by the different interested parties involved in the process of news production (Nossek, 2008). However, even within the constructivist-critical tradition, recency had been widely viewed in the past as an important component of news. As Stuart Hall (1973) observed, to formally and minimally qualify as news, “The story must be linked with an event, a happening, an occurrence; the event must have happened recently, if possible yesterday, preferably today, a few hours ago” (p. 181).

Within this framework, which developed predominantly in connection with the printed press, news is oriented toward a recent past that approaches the present as much as possible. With live broadcast news, the gap between the recent past and the present could be bridged, whether in actuality or through the appearance of liveness (Bourdon, 2000). Scholarship on live broadcasting has also demonstrated the unique social roles which liveness allows news to assume. As argued by Paddy Scannell, rather than only informing the public on recent events in the world and retrospectively shaping them, live news can construct and repair reality in real time (Scannell, 2004), while allowing audiences to move “back and forth between two worlds and times—their own time and the time of the world” (Scannell, 2014, p. 64). Online news can be viewed as potentially positioned between recency and liveness, or within both. The temporal and technological characteristics of online news production allow news websites to inform the public on recent events in close proximity to the time of the events (in written formats), whereas convergence trends (see Quandt & Singer, 2009) lead to the incorporation of live broadcasting in online news reports.

However, news is no longer conceptualized as rooted solely, or even primarily, in present and recent events. Indeed, the notion of news has broadened in both journalistic practice and academic scholarship. As Schudson (1986) has long since observed, “even the front page, presumably replete with news of the most important and up-to-the-minute events, has an orientation to time more varied and more complicated than

journalistic values would suggest” (p. 82). Barnhurst and Mutz (1997) showed how event-centered reporting declined in U.S. newspapers during the 20th century, with a trend toward more analysis, interpretation, and context provision. One of the manifestations of this trend is the placing of greater emphasis in news stories on times other than the present (i.e., past and future). Barnhurst and Mutz suggested that these changes could be explained, first, by how newspapers adapted to their then main competitor—television—and differentiated their product, and second, by broader changes in the culture of journalism over the 20th century. A follow-up study suggests that the trend of greater temporal complexity has continued in the 21st century and applies to U.S. online news as well (Barnhurst, 2011, 2013). In a similar vein, Fink and Schudson (2014) have observed an increase in the number of “contextual stories” in U.S. journalism in relation to “conventional reporting” from the 1950s to 2000s.

Other scholars have looked more closely at references in the news to either the past or the future. The more dominant strand of research has focused on the role of journalists as agents of collective memory (see Zelizer & Tenenboim-Weinblatt, 2014) and the various uses of the past in the news. In this strand of research, scholars have shown the complex ways in which the non-recent past is invoked in the news, from commemorative journalism (e.g., Carlson & Berkowitz, 2014; Zandberg, Neiger, & Meyers, 2012) to practices of using the past to make sense or highlight the news value of current events (e.g., Edy, 1999; Schudson, 2014). There are thus different layers of past in the news, from the recent past, which constitutes the conventional domain of news, to the more distant past, which relates to society’s collective memories.

A less developed strand of research has focused on future orientations in the news. Within this framework, the news media do not only inform on, construct and explain societies’ present and past, but also report on, predict and interpret what is about to happen, shape agendas for future action, and construct what Neiger (2012) termed “collective vision.” An examination of headlines in Israeli print newspapers over a period of 18 years (1985–2003) found that references to the future were widespread and that the level of speculation of these future-oriented stories increased over the years (Neiger, 2007). In a similar vein, Grusin (2010) has pointed to the growing role assumed by the U.S. media in premediating the future. According to Grusin, this trend intensified after the events of September 11, as a mechanism of preventing a similar traumatic shock in the future. Other studies have analyzed textual characteristics of future-oriented news, such as the narrative strategy of creating future-oriented suspense (Tenenboim-Weinblatt, 2008), discursive strategies of precontextualization (Oddo, 2013), and manipulation of time in the reporting of future events (Jaworski, Fitzgerald, & Morris, 2003). Connecting between past and future orientations in the news, Tenenboim-Weinblatt (2013a) suggested that the news media function at times as agents of prospective memory, which remind the public and decision makers not only what has happened but also what still needs to be done.

To date, however, there has not been a systematic examination of temporal orientations in different types of news. The question at the core of this article concerns differences in temporal orientations associated with different news media: Do some types of news outlets play a greater role in premediating the future, while other media assume

the more “traditional” role of mediating the past and the present? As suggested by Hutchby (2001), technologies have different affordances, which shape the conditions of possibility for their use. Thus, different types of news media can have different affordances, which enable particular activities and constrain others. Television and radio, for example, introduced what Scannell (2014) described as the unique communicative affordances of liveness and conversation. In the written domain, digital technologies have affordances which print media do not possess, such as those associated with interactivity, hypertextuality, and multimodality (Deuze, 2003), as well as immediacy and speed (Boczkowski, 2010; Pavlik, 2000). At the same time that new technologies present new affordances, “old” media need to adapt to these developments: One strategy is to downplay affordances which are surpassed by other media, and to foreground other affordances. This pattern can be found in cases such as radio’s response to television (Chadwick, 2013), or print newspapers’ creative responses to digital technology (Brock, 2013).

Drawing on the idea of affordances, in combination with the above discussion of the different temporal orientations and conditions in the news, our expectation was that to some extent, there would be a “temporal division of labor” between print and online news in representing the social reality. Given that print newspapers are more limited than online news in their capacity to serve as primary storytellers of recent events, and as they need to have a *raison d’être* in the contemporary news cycle which would fit their position on this cycle as well as their ability to invest more time and creativity in a given story (in relation to online news), we would expect print media to orient to the future more than online news. At the same time, we expected online news to assume the role of informing the public on recent and ongoing events as quickly as possible after their occurrence. We thus hypothesized that *a future temporal orientation would be more prevalent in print news stories than in online news (Hypothesis 1a), whereas a past temporal orientation would be more prevalent in online news than in print newspapers (Hypothesis 1b)*. In the same vein, we hypothesized that *a present orientation would be more prevalent in news websites than in print newspapers (Hypothesis 1c)*.

In order to disentangle the conditions under which different temporal orientations are used in the news, it is also important to examine their association with other content-based characteristics of news stories. We focus here on two relevant dimensions: the event-centeredness of the news item and its public affairs orientation. Scholars have noted the conceptual and empirical link between the event-centeredness of news stories and their temporal characteristics. In particular, characteristics such as greater temporal complexity (Barnhurst, 2011; Barnhurst & Mutz, 1997), a shift from a focus on activities that occurred or will occur within 24 hours (Fink & Schudson, 2014) and a higher level of future speculation in the news (Neiger, 2007) were described as closely linked to the decline in event-centered reporting, particularly within the printed news.

Following these arguments, and adopting Kepplinger’s (2002) distinction between events and issues in the context of news, we define event-centered items as those which predominantly focus on the depiction of concrete occurrences, which are

temporally and spatially limited. We suggest that these can be a past occurrence (e.g., an accident), a present occurrence (e.g., a report from an ongoing sport event), or a future occurrence (e.g., planned meeting). In contrast, issue-centered items are those which predominantly focus on the depiction of “continuous states of affairs that might change their character but have no observable beginning or end” (Kepplinger, 2002, p. 975). The focus of these issue-centered news stories can be on historical trends/context, current characteristics/debates, or future outcomes/implications. Importantly, issue-centered items can be triggered by specific events, but the event is not the focus of the coverage.

Within this framework, both event-centered and issue-centered news stories can potentially have past, present, and future orientations. However, we would expect a tighter link between event-centered stories and the recent past (corresponding to the conventional definition of news), whereas broader discussions of issues are more likely to include future-oriented elements such as speculations and agendas for action. We therefore hypothesized that *a past temporal orientation would be more prevalent in news stories centering on events than in news stories centering on issues (Hypothesis 2a), whereas a future temporal orientation would be more prevalent in news stories centering on issues than in news stories centering on events (Hypothesis 2b).*

Another content-based element we examine is the public affairs orientation of the news item. The distinction between public affairs and non-public affairs stories has proved useful in explaining differences in diverse news-related patterns, such as patterns of content homogeneity in print and online news (Boczkowski & de Santos, 2007) or patterns of difference between journalists’ and audiences’ news preferences (Boczkowski & Mitchelstein, 2013). There is also evidence that news stories on public affairs topics tend to have more temporal references than topics with a lesser public affairs orientation, such as accidents and crime (Barnhurst, 2013; Barnhurst & Mutz, 1997). We define stories that belong to the domain of public affairs as those that connect to the actions or responsibilities of actors/institutions in the political, economic, or security arenas, whether domestic or international. Generally, news about politics, government, economics, security, and international affairs belong to this category. However, it can also include other stories, when these are explicitly depicted as having public affairs implications (see Boczkowski, Mitchelstein, & Walter, 2011). We hypothesized that *a future temporal orientation would be more prevalent in news stories concerning public affairs than in news stories concerning other domains (Hypothesis 2c), whereas a past temporal orientation would be more prevalent in news stories that do not have a public affairs orientation (Hypothesis 2d).* This is based on the assumption that future-oriented journalistic functions—from reporting on planned events to discussing consequences, expectations, and agendas—are more relevant for public affairs topics. This greater relevance thus potentially applies to both event-centered and issue-centered news. On the other hand, stories that do not connect to the political sphere, but rather address readers’ interest in learning about intimate, violent, or other aspects of the world which arouse curiosity (Tenenboim & Cohen, 2015), are where we expect to find a greater past orientation.

Although the relationship between temporal orientation and other content-based characteristics may be interesting in its own right, in the context of this article we are particularly interested in event-centeredness and public affairs orientation in the context of any detected differences between the type of news outlet (print vs. online) and the story's temporal orientation. If the hypotheses regarding event-centeredness and public affairs orientation are supported (Hypotheses 2a-2d), it raises the question of whether any detected differences between print and online news in their temporal orientations can be attributed to these content-based characteristics. Indeed, there are reasons to suspect that both event-centeredness and a public affairs orientation will also differ across media, with online news being more event-centered and containing a higher dose of lighter, non-public affairs news on their front pages (see Barnhurst, 2013; Benson, Blach-Orsten, Powers, Willig, & Zambrano, 2012). In that case, if we find, as expected, that a future temporal orientation is more prevalent in print newspapers than in online news, is it because print media tend to be less event-centered and/or more public affairs oriented (which in turn leads to different temporal orientations)? Or is there also an independent relationship between the type of medium and temporal orientation in the news, associated with the different position of print and online outlets in the news cycle and their unique affordances? Our hypothesis, based on the argument we developed above regarding the temporal conditions and affordances of print and online news, is that *associations between media type and temporal orientation also exist independently of the media types' content-based characteristics, including event-centeredness and public affairs orientation (Hypothesis 3).*

Method

The study is based on content analysis of news stories which were published in two leading Israeli daily newspapers (*Haaretz* and *Yedioth Ahronoth*) and two leading Israeli news websites (*Ynet* and *Walla!News*) in the second quarter of 2012. As in other parts of the Western world, the Israeli news industry has been struggling with declining readership for print newspapers, decreasing advertising revenues, and the challenge of rethinking economic models and professional identities in a rapidly changing media landscape. At the same time, given the enduring centrality of news in Israeli society and the concentrated nature of the Israeli news media, several leading news outlets, including print newspapers, still hold a very prominent position in the Israeli public sphere. Within existing typologies of media systems (Hallin & Mancini, 2004) and journalistic cultures (Hanitzsch, 2007), Israel represents a hybrid case. Israeli journalists' practices and role perceptions combine interventionist tendencies with Western-oriented journalistic values (Hanitzsch et al., 2011; Tenenboim-Weinblatt, 2013b), and although the system as a whole is closest to the Liberal model in its market orientation and journalistic professional ethos, it also bears the marks of other models (Peri, 2012). In the combination of these conditions, Israel provides a particularly useful context for examining the range of roles assumed by different news media in the contemporary media environment.

Among Israel's print outlets, *Haaretz* is considered the national elite newspaper (often compared with the *New York Times*), and is also known for its left-liberal editorial line. *Yedioth Ahronoth* (published in a tabloid format) is the most widely circulated paid-for newspaper in Israel, with an average national exposure rate of 37.6% in the first half of 2012 (Avraham, 2012a). The two studied websites—*Ynet* and *Walla!*—were competing during that period for the title of most popular Israeli news website. During the second quarter of 2012, each of the two websites reached approximately 60% of Israeli Internet users every week (see data in Avraham, 2012b; Benjamin, 2012). Whereas *Walla!* is not connected with any print newspaper, *Ynet* is part of the Yedioth Ahronoth Group. However, its newsroom is autonomous from that of the print newspaper.

Within the news outlets, our focus was on the top news stories, including items published on the front pages of the print newspapers and in the top section of the websites' home pages (normally four items in *Ynet* and six items in *Walla!*). A news item was defined as a separated content unit which had its own headline, including all verbal and visual components of the unit. The sample consists of two randomly constructed weeks of front/home pages, sampled from a period of 10 weeks (April 1–June 9, 2012). As the home pages are dynamic, they were sampled 3 times a day—at 11:00 a.m., 3:00 p.m., and 10:00 p.m.—representing three shifts in the newsroom (morning, afternoon, night). In order to maintain a focus on news reports, opinion and analysis columns which appeared on the sampled front/home pages were excluded from the corpus of analysis (19 from news websites and 23 from the print newspapers), resulting in a final sample of 429 items.

The items were coded by two trained students, based on a coding scheme developed by the authors. The scheme was developed based on a combination of available literature and an inductive, qualitative process of examining actual news coverage. The scheme was tested and refined through a process of preliminary inter-coder reliability evaluation, using news items that were not included in the main corpus of the study. The refinement process concluded when Cohen's Kappa coefficient for inter-coder reliability reached a minimum of 0.7 for all questions. In coding the main corpus, a subset of 76 items (16% of the sample; two randomly selected days) was double coded for assessing final inter-coder reliability (see Table 1 for inter-coder reliability values for all relevant questions).¹

At the core of this article is the question addressing the *dominant temporal orientation* of the news item. Coders were asked to determine whether the main temporal orientation of the item was (1) the past—defined as occurrences that took place before the publication of the item; (2) the present—defined as state of affairs or occurrences that are still taking place (parallel to the time of publication); or (3) the future—defined as occurrences that will/may take place after the publication of the story. The coders were instructed not to refer to the grammatical tense of the story but rather to the substantive one. For example, in some news items the headline is phrased in the present tense but the story depicts past events (in our sample this was the case in 12% of the items). In addition, if the item focused on a statement made by a social actor, the coders were instructed not to choose the time in which the statement was made (evidently, the past), but the time that the content of the statement was referring to. For example, if the headline reads “Romney's advisor: If he gets elected, Iran will know there's a new sheriff in town,” the story should be coded as having a dominant future

Table 1. Categories and Inter-Coder Reliability Coefficients of the Variables Used in the Analysis.

Dimension	Variable	Values/categories	Cohen's Kappa
Medium	News outlet	Four categories, consisting of the four sampled news outlets; aggregated into medium types (print/online)	1.00***
Temporality	Dominant temporal orientation	Three categories: Past, present and future; Derived dichotomous variables: Dominant past orientation (yes/no), dominant present orientation (yes/no), dominant future orientation (yes/no)	.82***
	Type of past temporal orientation	Distinction between recent and distant past within past temporal orientations	.87***
Other characteristics of the story	Event-centeredness	Dichotomous variable: Event-centered versus issue-centered	.76***
	Triggering factor	Four categories: Past event, present event, planned event, and issue-driven	.71***
	Public affairs orientation	Dichotomous variable: Public affairs versus non-public affairs	.92***

*** $p < .001$.

orientation. In order to distinguish between references to the near and distant past, we also used a differentiated coding scheme, where we examined whether the dominant past orientation referred to events that occurred more than 6 months into the past or focused on recent occurrences. Other relevant variables for the following analysis address the event-centeredness and public affairs orientation of the news story (see the theoretical framework above for precise definitions), as well as the kind of event, if any, that triggered the story (to the extent that this can be determined by clues in the news text). Note that a news story can be triggered by an event even when the story itself is not event-centered (see Kepplinger, 2002). Indeed, in this study, 77.4% of the issue-centered news items were triggered by events.

Findings

Temporal Orientations and Type of News Outlet

First, we examined the relationship between the type of news outlet and the dominant temporal orientation of the news stories in our sample. As shown in Table 2, 43.4% of

the print stories had a dominant future orientation, compared with only 25.5% of the online stories. On the other hand, 54.2% of the online items had a dominant past orientation, compared with 36.4% of the print items. The chi-square test indicates that the relationship is significant ($p < .01$). Odds ratio (OR) analysis (derived from both Table 2 and the simple logistic regressions in Table 3) suggests that the odds of having a dominant future orientation in print newspapers are 2.2 times the odds of having a dominant future orientation in online news (in relation to past or present orientation; Wald test = 11.50, $df = 1$, $p < .01$). In contrast, the odds of having a dominant past orientation in online news is 2.1 times the odds of having a dominant past orientation in print newspapers (in relation to future or present orientation; Wald test = 9.53, $df = 1$, $p < .01$). The analysis thus supports Hypotheses 1a and 1b, according to which a future temporal orientation will be more prevalent in print news stories than in online news, whereas a past temporal orientation will be more prevalent in online news than in print newspapers.

Table 2. Dominant Temporal Orientation by Type of News Outlet (Print vs. Online).

Dominant temporal orientation	Type of news outlet	
	Print newspaper ($n = 99$)	News website ($n = 330$)
Past	36.4%	54.2%
Present	20.2%	20.3%
Future	43.4%	25.5%
Total	100%	100%

Note. $\chi^2(2, N = 429) = 13.18, p < .01$.

Importantly, this pattern of relationship also applies to individual news outlets and cuts across popular and highbrow newspapers. Thus, while the percentage of future-oriented items was highest in the popular newspaper *Yedioth Ahronoth* (54.3% of the front-page stories have a dominant future orientation), the percentage of future-oriented items in *Haaretz* (37.5%) was still significantly higher than their percentage in both *Ynet* and *Walla!* (25.6% and 25.4%, respectively). Similarly, the rate of past-oriented news in both online outlets (46.5% in *Ynet* and 59.2% in *Walla!*) was higher than their rate in both *Yedioth Ahronoth* and *Haaretz* (28.6% and 40.6%, respectively).

A comparison of print and online news in relation to different layers of the past (based on the coding of the dominant temporal layer) further supports Hypothesis 1b. Our hypothesis regarding the greater prevalence of the past in online news refers to the near past, where online news outlets have a “temporal advantage” over print newspapers. And indeed, the data suggest that it is not the distant past that drives the differences in past orientation between print and online news, but rather the recent past. Thus, the percentage of news items which focus on the more distant past (i.e., the realm of collective memory and context provision) is very similar in print and online

Table 3. Logistic Regressions Predicting Past and Future Orientations in News Stories (Odds Ratios, 95% CIs).

	Future orientation		Past orientation	
	Simple regressions	Controlled model	Simple regressions	Controlled model
Print news ^a	2.25** [1.41, 3.59]	2.03** [1.26, 3.28]	0.48** [0.30, 0.77]	0.50** [0.31, 0.83]
Event-centered stories ^b	0.53** [0.34, 0.82]	0.60* [0.38, 0.94]	5.41*** [3.39, 8.61]	5.31*** [3.3, 8.6]
Public affairs orientation ^c	1.86** [1.19, 2.91]	1.51 [0.94, 2.41]	0.65* [0.44, 0.96]	0.99 [0.64, 1.52]

Note. N = 429. CI = confidence interval.

^aReference category: Online news.

^bReference category: Issue-centered stories.

^cReference category: Non-public affairs.

*p < .05. **p < .01. ***p < .001.

news: 9.1% of the print items and 8.1% of the online items focus on events occurring more than 6 months in the past. In contrast, the near past—the realm of recent news-worthy events—greatly prevails in online news.

The different temporal orientations of print and online news can be illustrated through following the leading stories on one of the days in our sample. On April 30th, 2012, the main headlines of the print newspapers were both future-oriented, focusing on possible elections in a few months' time: "Agreement in the political system: Elections at the end of August or immediately after the holidays" (*Haaretz*); "Indications: Elections at the end of summer" (*Yedioth Ahronoth*). Coverage also included voting polls and various analyses and speculations regarding campaign strategies and the exact date for the elections. In contrast, the morning headlines of the two studied websites focused on the immediate past—the death of the prime minister's father that morning. The afternoon shift brought reports and live coverage from the funeral of Benzion Netanyahu, while items regarding "the upcoming elections" could be found only by scrolling down to the bottom of the page. Notably, the next day (May 1st), the main headlines in both print newspapers focused again on stories related to the upcoming elections, whereas the story about the death of the prime minister's father was second in hierarchy. It is also worth mentioning that eventually no elections were held at the end of that summer (they were held only in 2013 and under different political circumstances).

Interestingly, while the data support our hypothesis regarding the greater prevalence of future in print news versus the greater dominance of the past in online news, it does not support our hypothesis that online news will be more focused on the present than print news (Hypothesis 1c). As shown in Table 2, the rate of present-oriented stories is very similar in print and online news outlets (20.2% of print stories and 20.3% of online news are present-oriented). A logistic regression using present orientation as a

dichotomous dependent variable also shows that there is no significant relationship between the type of news outlet and present orientation. A closer look at the present-oriented news items in the sample suggests that the detected lack of relationship between the type of outlet and a present temporal orientation may be associated with the presence of two distinct layers of the present in news coverage: The live present, which focuses on specific events that take place at the current moment (e.g., a funeral or sports event), and the extended/continuous present, which focuses on states of affairs, or broader trends, processes, and narratives which extend from the past to the present (e.g., the economic crisis). This links to the distinction further explored in the subsequent section, between event-centered and issue-centered items (see Kepplinger, 2002), as well as the distinction between episodic and thematic framing (Iyengar, 1991). Indeed, within the present-oriented items in our sample, it is the event-centered items which are more prevalent in online news than in print news, with 48% of the present-oriented items in online news being event-centered, compared with only 25% of the present-oriented items in print news. However, there is no full equivalence between the different layers of present and the event-centeredness of the news stories. For example, some of the present-oriented, event-centered items in the sample belong to the category of extended rather than live present (e.g., “New evidence is examined: ‘Madeleine McCann may be alive’”; headline in *Walla!*, April 25, 2012). Future research should thus code more systematically for different layers of present in news stories.

Temporal Orientations and Type of News Content

In addition to the significant relationship between the type of medium and past/future dominant orientations, we also found significant bivariate associations between these dominant temporal orientations and the event-centeredness of the story, as well as its public affairs orientation. These associations are presented in Table 3, in the simple logistic regression analyses. With regard to event-centeredness, the table shows that stories centering on events are 5.4 times more likely to have a past temporal orientation than stories centering on issues (Wald test = 50.46, $df = 1$, $p < .001$). In contrast, they are nearly twice less likely to have a future temporal orientation in relation to issue-centered stories (OR = .53; Wald test = 8.22, $df = 1$, $p < .01$). Or, put differently, the odds of having a future temporal orientation in issue-centered stories are nearly twice the odds of having a future temporal orientation in event-centered stories. Hypotheses 2a and 2b are therefore supported.

With regard to public affairs, Table 3 shows, as expected, that a future temporal orientation is more prevalent in stories that have a public affairs orientation than in stories which focus on other domains (Hypothesis 2c), whereas a past temporal orientation is more prevalent in news stories that do not have a public affairs orientation (Hypothesis 2d). Thus, stories with a public affairs orientation are 1.86 times more likely to have a dominant future orientation than stories without a public affairs orientation (Wald test = 7.35, $df = 1$, $p < .01$) and 1.54 times less likely to have a dominant past orientation in relation to non-public affairs stories (OR = .65; Wald test = 4.59, $df = 1$, $p < .05$).

Notably, while public affairs stories tend to be less event-centered than stories without a public affairs orientation (chi-square with a continuity correction, $\chi^2(1, N = 429) = 22.02, p < .001$), the association between event-centeredness and a public affairs orientation is not particularly strong ($\phi = -.23, p < .001$). In other words, stories with a public affairs orientation are not rare in event-centered stories, while the category of issue-centered stories also includes non-public affairs stories. We can therefore consider the distinct relationships between dominant temporal orientation and each of these variables. Statistically, the fact that the two content-based characteristics are not too highly correlated allows us to include both in a multivariate regression analysis, without creating a problem of multicollinearity.

Before moving to the multivariate analysis, however, it is important also to examine whether there are differences between print and online news in their event-centeredness and public affairs orientation. Indeed, event-centered stories tend to be more prevalent in online than in print news (71% of online news items are event-focused, compared with 62% of print items), though the differences only approach significance ($p = .07$ in chi-square test). The association is more pronounced for public affairs orientation: 76.8% of print news stories have a public affairs orientation, compared with only 57.3% of online news stories.² In contrast, stories without a public affairs orientation are more prevalent in online than in print news. News websites, for example, often include in the mix of top five stories entertaining/entertainment-based items, such as “China: watch a 3-year-old boy crossing a crowded junction with his toy motorbike” (*Walla!*, May 24, 2012), or a report on the previous night’s episode of the Israeli franchise of *Survivor*, the successful reality TV show (*Ynet*, May 24, 2012). Such items are rarer on the front pages of print newspapers in Israel. The overall relationship between public affairs orientation and type of news outlet is significant ($\chi^2(2, N = 429) = 12.26, p < .001$).

Could it be, then, that the differences between print and online news in their temporal orientations are due to the differences in other content-based characteristics of the different types of media? The next stage was to examine whether associations between media type and temporal orientation also exist independently of the media types’ content-based characteristics (Hypothesis 3). As shown in Table 3, the influence of the medium remains significant in a multivariate analysis. Indeed, the odds of having a future temporal orientation in print news in relation to online news hardly decrease in a controlled model (in relation to the simple model): Print stories are 2.03 times more likely to have a dominant future orientation than online news stories when controlling for event-centeredness and public affairs orientation (Wald test = 8.42, $df = 1, p < .01$). A similar miniscule decrease in the OR also exists in predicting past temporal orientation from the type of medium: In a controlled model, the odds of having a past temporal orientation in online news are precisely twice the odds of having a past orientation in print news (Wald test = 7.27, $df = 1, p < .01$). Medium is thus a separate factor that contributes independently to news stories’ dominant temporal orientation. Table 3 also shows that event-centeredness remains a significant predictor of temporal orientation in a multivariate model, while public affairs orientation is no longer a significant predictor of temporal orientation in a controlled model.

We can demonstrate the medium's distinct contribution, associated with the constraints of the news cycle, by looking at differences in the temporal treatment of stories that focus on the same public affairs topic or have the same level of event-centeredness within a specific news cycle (conducting, in a sense, a "qualitative control"). In the example discussed earlier, from April 30th, 2012, the leading news stories in the print and online media were both event-centered. However, one was a planned/speculated event (elections) while the other focused on an event from the recent past (the death of the Prime Minister's father). A different temporal treatment of the same public affairs topic can be found in the news cycle of May 24th, 2012, when the Israeli media engaged with the story of a violent anti-immigration demonstration in a poor neighborhood in South Tel Aviv the night before. In the morning, the future-oriented main headline in *Yedioth Ahronoth* read: "The Interior Security Minister is considering: A border police unit to South Tel Aviv." The focus is thus on planned measures to be taken by the government. In contrast, the news websites focused that day on developments that had occurred within the last few hours, such as a report on the release of some of the detainees from the previous night's protest. Notably, both print and online coverage in this example was triggered by recent-past events, but the temporal focus was different. Indeed, past events are not only the main triggering factor of past-oriented stories (91% of past-oriented stories in our sample were triggered by past events), but they also constitute the largest category of triggering factors in future-oriented news. 49% of future-oriented news stories in the sample were triggered by past events (the rate is precisely the same for future-oriented items in print and online news), while the remaining future-oriented items were triggered by planned events (25%), ongoing events (15%), or were not event-driven (11%). In other words, there is no necessary correspondence between the temporal orientation of the triggering factors and that of the coverage itself.

Discussion

This study has examined differences in the temporal orientation (i.e., past, present, or future) of print and online news in the Israeli media, as well as the relationship between temporal orientation and other content-based characteristics of news stories. The analysis suggests that print newspapers, at least in Israel, assume a more future-oriented role, which involves speculating about future events, analyzing potential outcomes, raising concerns and hopes, and shaping agendas for future action. Online news outlets, on the other hand, assume the more commonly recognized journalistic role of reporting on recent events, while further narrowing the gap between written and broadcast news, or between the recent past and the live present. In this sense, our study supports previous claims regarding the complementary relationship between new and traditional media (Nguyen & Western, 2006; van der Wurff et al., 2008), although here it is the new medium that assumes the more "traditional" journalistic function. Furthermore, the analysis presented in the present article shows that while past and future temporal orientations are also associated with content characteristics which relate to the different journalistic functions—event-centeredness as being more closely

linked to the conventional past-oriented role of news, and future-oriented functions as being more relevant in the context of a public affairs orientation than in non-public affairs stories—the relationship between the medium and temporal orientation also exists independently of event-centeredness and public affairs orientation.

What is it about the different types of media that lead to the differences in temporal orientations? Our suggestion is that it is at least in part the position of the different media in the news cycle, as associated with the temporal constraints and possibilities of the medium. Drawing on the idea of affordances (Gibson, 1982; Hutchby, 2001), we can argue that print and online media have different “temporal affordances,” which are both constraining and enabling. As put by Gillespie, Boczkowski, and Foot (2014, p. 10), “at the most fundamental level, media technologies are about the linkages between the symbolic and the material,” and the theory of affordances is one of the promising avenues for bridging these two dimensions (Hutchby, 2001; Lievrouw, 2014). Accordingly, the notion of temporal affordances that emerges from this study connects the material and symbolic dimensions of news production by suggesting that the characteristics of different media technologies create temporal constraints and possibilities, which in turn lead to different characteristics of the news content. Importantly, these “effects” are not deterministic, as affordances are, in essence, “opportunities for or invitations to action that things present to actors” (Lievrouw, 2014, p. 48). Thus, while print media do not have the same opportunities as online media in fulfilling the function of supplying information on recent events in close proximity to their occurrence, it is also not necessary that they will regard these temporal constraints as an invitation to orient themselves to the future. Similarly, it is not necessary that online media will fully exploit their affordances (see Engebretsen, 2006). Furthermore, the degree to which media actors leverage or downplay temporal affordances of different media may change over time, based on the changing characteristics of the media environment, audiences’ expectations, or other pressures, constraints, and opportunities.

Indeed, the findings presented in this article strongly suggest that in contemporary conditions, Israeli print news media tend to be more future-oriented than online media, which exploit their temporal advantage in representing the recent past. However, the study also has some limitations which leave several questions open. First, we cannot determine whether there has been a process of adaptation, in which printed news has become more future-oriented to sustain itself in the new media environment. This is an issue that needs to be investigated in a longitudinal content analysis. While scholars have pointed to processes of adaptation of “old” media to the conditions created by competition from new media (e.g., Brock, 2013; Chadwick, 2013), as well as to over-time changes in certain temporal dimensions of print news (Barnhurst & Mutz, 1997; Fink & Schudson, 2014), the specific question of changes in temporal orientations over time is yet to be studied.

A second dimension that should be added in future research is a closer look at production processes, including the various pressures, considerations, and decision-making processes which lead to the formulation of news stories with particular temporal orientations. Conducting interviews with journalists (in particular editors), in addition to textual analyses, will help identify the various factors that contribute to the selection

of temporal orientations in different media and to further disentangle the relationship between these content selections and temporal conditions, among them the relative position in the news cycle.

Third, this study is limited in its focus on one national context. On the one hand, the challenges facing print newspapers, as well as the temporal conditions of print and online news production, are far from unique to Israel. In this respect, it is plausible that the findings of this study also apply to other national contexts. On the other hand, differences in journalistic cultures or in broader national characteristics may also lead to differences in the roles assumed by the news media in relation to the representation of past, present, and future. For example, it may be that print newspapers in journalistic cultures that are more information-oriented (see Hallin & Mancini, 2004; Hanitzsch et al., 2011) also adhere to more traditional conceptions of news as the representation of recent-past events; or that the news media in societies with lower political stability assume a more active role in constructing the future. These questions can be addressed in future cross-national studies.

Finally, this study can be seen as challenging recent arguments that the new millennium is characterized by severe “presentism” and a loss of orientation to the future (Rushkoff, 2013), while reinforcing arguments regarding the centrality of premediation in contemporary society (Grusin, 2010). As this article has shown, at least in the news media—in print newspapers, and to a lesser degree also in online news—orientation to the future is alive and well. Whether orienting the news to the future can help journalism face the challenges of the time remains a question that the future will answer.

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Notes

1. In the process of revising this article, three questions in the coding book were added or modified. The whole process was repeated for these variables, including both the preliminary and final inter-coder reliability evaluation.
2. This relationship is also maintained for individual news outlets: Whereas the percentage of news stories with a public affairs orientation was unsurprisingly highest in the highbrow newspaper *Haaretz* (81%), the percentage of public affairs stories in the popular newspaper *Yedioth Ahronoth* (69%) was still higher than in each of the news websites (*Ynet* 55%; *Walla!* 59%).

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