

Quotatives Indicate Decline in Objectivity in U.S. Political News

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ABSTRACT

According to journalistic standards, direct quotes should be attributed to sources with objective quotatives such as “said” and “told,” as nonobjective quotatives, e.g., “argued” and “insisted,” would influence the readers’ perception of the quote and the quoted person. In this paper, we analyze the adherence to this journalistic norm to study trends in objectivity in political news across U.S. outlets of different ideological leanings. We ask: 1) How has the usage of nonobjective quotatives evolved? 2) How do news outlets use nonobjective quotatives when covering politicians of different parties? To answer these questions, we developed a dependency-parsing-based method to extract quotatives and applied it to Quotebank, a web-scale corpus of attributed quotes, obtaining nearly 7 million quotes, each enriched with the quoted speaker’s political party and the ideological leaning of the outlet that published the quote. We find that, while partisan outlets are the ones that most often use nonobjective quotatives, between 2013 and 2020, the outlets that increased their usage of nonobjective quotatives the most were “moderate” centrist news outlets (around 0.6 percentage points, or 20% in relative percentage over seven years). Further, we find that outlets use nonobjective quotatives more often when quoting politicians of the opposing ideology (e.g., left-leaning outlets quoting Republicans) and that this “quotative bias” is rising at a swift pace, increasing up to 0.5 percentage points, or 25% in relative percentage, per year. These findings suggest an overall decline in journalistic objectivity in U.S. political news.

1 INTRODUCTION

Journalistic objectivity is the notion that news should contain accurate information and not convey the personal opinions or emotions of the writer [9, 31]. Historically, objectivity emerged alongside the conception of journalism as a profession [32] and has shaped many of the practices and norms in modern journalism [6]. In the context of U.S. politics, with its two major political parties, this can also be interpreted as “equal treatment” of both parties [13]. Bias in the news could affect public opinion [21, 28] and lead to changes in voting behavior [4, 14].

“Absolute” objectivity has been criticized as unattainable, as structural biases would creep into news production [2], or even as harmful, as the excessive balance of viewpoints could create an illusion of credibility for dubious or unsupported positions [15]. However, amidst the fragmented media ecosystem that emerged from the digitization of news outlets and the algorithmic serving of content [36], journalism scholars have argued that objectivity has become ever

more important to consumers of journalism [6, 25]. This opinion is also held by the public worldwide, who, as of 2018, overwhelmingly agree that news media should be unbiased in its coverage of politics [27].

One of the concrete ways in which journalists have sought to report the news objectively is through the usage of direct quotes [8, 34]. Since journalists almost never directly observe the events they report, using quotes lends them more reliability and factuality than their own words [37]. Furthermore, direct quotes would let people “speak for themselves,” following one of the golden rules of journalism [19]. However, in a direct quote, journalistic objectivity can still be compromised by the use of certain quotatives that relay the emotions of reporters to readers [26] or the attempt to describe the speaker’s state of mind [17]. For example, in the direct quote

“New York is not afraid of terrorists,” **boasted** Rep. Jerrold Nadler, a Democrat representing Manhattan,

the quotative (**boasted**) carries an illocutionary force from the reporter that influences how the reader perceives the quote itself, possibly distorting its original meaning [10]. Objective quotatives, like “say” or “tell,” on the other hand, are considered neutral, as they imply little about the presumed intent or the fashion in which the quote was uttered [3, 33].

Recent years were marked by increased political polarization [1], mistrust in media [7], increased negative tone by politicians [23], and the perception that the public debate around politics has become less respectful and less fact-based [16]. Solutions to these issues are complex, but analyzing bias and departure from journalistic objectivity in political news coverage can help inform new practices and interventions that seek to improve the political news media ecosystem. Quotatives, in this context, are a powerful instrument to measure bias. Studying how journalists deviate from the standard usage of quotatives – e.g., “say” and “tell” [35] – allows researchers to quantitatively assess adherence to journalistic objectivity [24] and reveal biases in journalistic coverage of politics [17].

1.0.1 Present Work. This paper analyzes quotatives to study objectivity and media bias in political journalism. We ask:

- **RQ1** How has the usage of nonobjective quotatives evolved in U.S. political journalism?
- **RQ2** How do news outlets use nonobjective quotatives when covering politicians of different parties?

To answer these research questions, we developed a methodology to extract quotatives from a large-scale corpus. We then performed a comprehensive study on how (and which) quotatives are used in direct quotes from U.S. politicians between 2013 and 2020, leveraging a large dataset of quotes from English-language media linked with relevant speaker metadata [38] and enriched with the political

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leanings of different U.S. outlets. By counting the usage of nonobjective quotatives like “shout” or “assert”, we analyze how U.S. news outlets of different political inclinations adhere to basic journalistic objectivity principles and how this adherence evolves. Further, analyzing how outlets of different political inclinations use quotatives to talk about politicians of different parties, we study the evolution of quotative bias in news outlets.

1.0.2 Summary of Findings. We find that the usage of nonobjective quotatives varies across different outlet categories. Overall, the more ideologically extreme an outlet is, the more nonobjective quotatives it uses. However, we also find that centrist outlets are experiencing a significant increase in the usage of nonobjective quotatives over the last years (about 0.6 percentage points, or 20% in relative percentage), suggesting that they may be “catching up” to the more biased outlets, which are not experiencing such significant increases (**RQ1**). We also find evidence of “quotative bias”, i.e., outlets tend to use nonobjective quotatives, especially when referring to politicians of opposing ideology. For instance, left and right-leaning outlets use nonobjective quotatives up to 2% more often when referring to republicans and democratic politicians, respectively (**RQ2**). Last, we find that this quotative bias is increasing at a swift pace, increasing as much as 0.5 percentage points per year in absolute percentage, or 25% in relative percentage, for left-leaning outlets, suggesting a rapid increase in polarization (**RQ1** and **RQ2**).

1.0.3 Implications. Our findings indicate a decline in journalistic objectivity in U.S. political news, particularly from centrist outlets. This suggests that centrist outlets may play a role in the increasingly less respectful and fact-based debate around politics [16]. Further, we also find evidence of an increasing quotative bias, which could further erode trust in media [7].

2 MATERIALS AND METHODS

2.1 Data and Data Processing

To study quotative usage across various news outlets, we use the Quotebank [38] dataset, a web-scale corpus of quotes. Quotebank contains over 235 million unique quotes, extracted from 196 million English news articles from 377 thousand web domains between September 2008 and April 2020. We additionally obtain a list of current and former U.S. politicians with their party affiliations from Wikidata, in the same fashion as K  lz et al. [23]. We filter QuoteBank to consider the period containing the best-quality speaker attributions (May 2013 to 2020) and retain only quotes from politicians on this list.

To ensure the validity of our findings, we preprocess Quotebank as depicted in Figure 1. We 1) use heuristics to retain only direct quotes; 2) extract quotatives and remove quotes without quotatives in the verb form; 3) filter quotes, keeping only those from U.S.-based outlets with human-verified bias ratings; and 4) create dictionaries of common quotatives, removing quotes with rare quotative verbs for which quotative extraction performs poorly. We detail each of these steps in the following paragraphs.

Step 1: Removing Titles and Mixed Quotes. To remove titles from the dataset that are erroneously recognized as quotes (e.g., movies, books, etc.), we apply a filter using the percentage of words in a quote whose first letter is capitalized (using a threshold of 50%

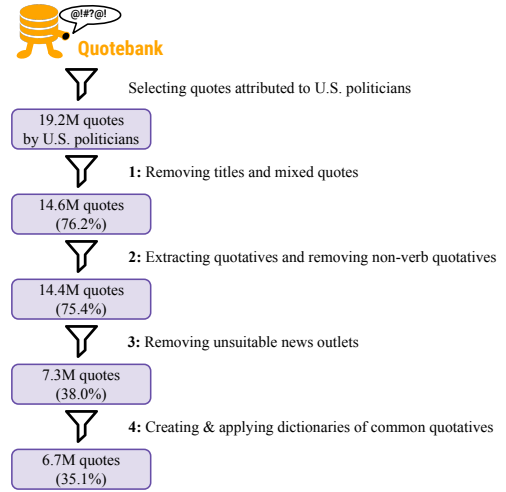


Figure 1: Data processing pipeline. We outline the key steps in our data processing pipeline and the percentage of retained data after filtering.

capitalization). Afterward, to remove mixed quotes, we employ a sentence recognition filter that combines constituency parsing¹ and dependency parsing². We retain only quotes that can be parsed as a full sentence at the root level by constituency parsing and contain a subject and a predicate (root) in dependency parsing. These heuristics greatly improve data quality (e.g., extracted quotatives in Step 2 are much more accurate) while retaining 76.2% of the dataset.

Step 2: Extracting Quotatives and Removing Non-verb Quotatives. In the next step, we adopt a three-stage approach to extract the quotative from each quote using dependency parsing. First, we run dependency parsing and acquire a distribution of quotatives from the root node of each parsed quote. Second, we add a condition to ensure that in cases where one verb is identified as the root and another verb exists in a parallel node³, we choose the verb with the higher probability as the quotative (according to the distribution of verbs extracted in the first stage). Finally, we take the lemma of each extracted quotative and remove quotatives that are not in verb form. After this step, we retain around 75.4% of the original data.

Step 3: Removing Unsuitable Outlets. We obtain a list of media bias ratings from mediabiasfactcheck.com (hereinafter MB/FC) and classify outlets into five categories based on the bias rating: left, left-center, least-biased, right-center, and right. We refer to left-center, least-biased, and right-center outlets as centrist outlets in the following. We remove quotes from outlets without a bias rating, from outlets that are not from the U.S. (also according to MB/FC data), and from outlets that have very few quotes (which may suggest data quality issues), only keeping outlets with more than 20 quotes over

¹Constituency parsing breaks down sentences into phrases and identifies their grammatical roles, e.g., in “I eat a big apple”, “a big apple” is a noun phrase. See Jurafsky and Martin [20] for details.

²Dependency parsing extracts dependency relationships between words, with verbs typically being in the structural center, e.g., in “I eat a big apple”, “big” is an adjectival modifier of “apple.” See K  bler et al. [22] for details.

³csubj, ccomp, xcomp, advcl, acl, parataxis, conj, cc, relcl, see <https://universaldependencies.org/en/dep/>

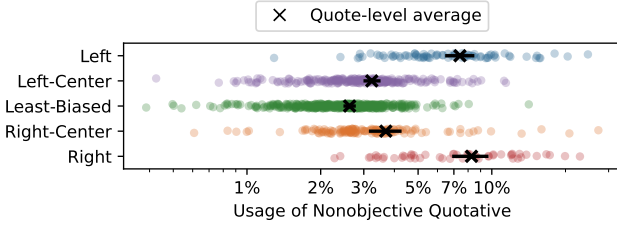


Figure 2: Usage of nonobjective quotatives across outlets of different political leaning. For each media bias category (on the y -axis), we depict the usage of nonobjective quotatives per outlet (each represented by a circle \circ) and the overall average usage pooled across outlets (\times). Note that the x -axis is on a logarithmic scale. Pairwise differences between averages are statistically significant under the Wilcoxon Rank-Sum Test with Bonferroni correction.

a period of 12 months. After this step, around 38.0% of the original data remains, all from relevant U.S. media outlets with human-verified bias ratings. Manual inspection of the removed data confirms that the removed outlets are predominantly non-news websites, small local newspapers, radio stations, and non-U.S. news outlets.

Step 4: Creating Dictionaries of Common Quotatives. Inspired by Lee [24] as well as the recommendations laid out in Reuters [29] and The Associated Press [35], we define quotatives as *objective* if they refer to the direct speech action and do not involve any subjective judgment of the action (e.g., like “say” and “tell”); and as *nonobjective* if they refer to some additional action or conduct and with subjective judgments (such as “boasted”, “rasped”, “taunted”, or “hailed”). To optimize for precision, we exclude common verbs with many non-quotative senses, such as “go.” Using this definition, we manually annotate the most frequent 99.5% of quotatives overall and the 98.0% of the most frequent quotatives per month. We consulted a professional journalist throughout this process, who suggested that the verbs “opine”, “pen”, and “utter” are only sometimes used nonobjectively. Since it would be infeasible to create a separate category just for these verbs, we excluded them. In the end, we curated a list of 32 objective and 152 nonobjective verbs. We use this list to remove rare verbs (i.e., those not on the list), obtaining a final dataset with 6.7M quotes (35.1% of the original data) from 14,031 politicians in 989 outlets.

3 RESULTS

3.1 RQ1: How Has the Usage of Nonobjective Quotatives Evolved?

Across the study period, we find that the usage of nonobjective quotatives produces a sensible ordering of the media bias categories considered, with the more partisan outlets using the most nonobjective quotatives and the less partisan outlets using the least. We depict this order in Fig. 2, where each circle (\circ) represents the average usage of nonobjective quotatives in one of the outlets considered, and crosses (\times) indicate the average usage pooled across each media bias category. When quoting politicians, U.S. least-biased outlets use nonobjective quotatives the least (2.8%, 2.12M quotes), followed by

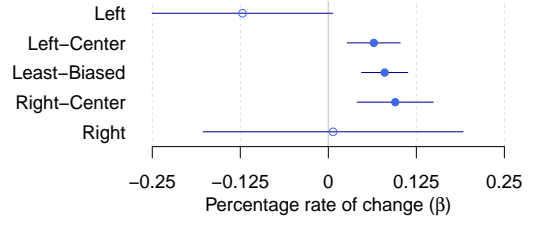


Figure 3: Percentage yearly rate of change of nonobjective quotative usage for each outlet category. A solid circle denotes a significant effect ($p < 0.05$), and a hollow circle denotes an insignificant effect. Note that the reported trends correspond to the estimated β coefficients in Eq. (1).

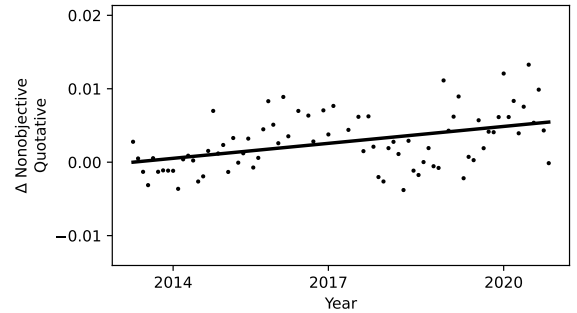


Figure 4: Percentage yearly rate of change of nonobjective quotative usage for all outlets combined. We show the percentage of nonobjective quotatives after performing centering and plot a regression line showing the β coefficients estimated in our fixed effects model.

the right-center (3.1%, 0.94M) and left-center outlets (3.3%, 2.45M) and finally, right (5.7%, 0.75M) and left outlets (6.7%, 0.46M). Outlets considered more partisan by MB/FC used nonobjective quotatives more. Pairwise differences between averages are statistically significant under the Wilcoxon Rank-Sum Test with Bonferroni correction.

To study how the usage of nonobjective quotatives evolved, we use a fixed effects linear probability model. For each quote q in our dataset, let $o[q]$ be the outlet in which q was reported, $b[q]$ be the bias category of the outlet, and $t[q]$ be the time when it was reported in months relative to the starting period of our dataset (May 2013). We then define the model as

$$y_q = \alpha_{o[q]} + \gamma_{b[q]} + \beta_{b[q]}t[q] + \epsilon_q, \quad (1)$$

where the dependent variable y_q equals 1 if the verb used in the quote q is nonobjective and 0 otherwise, $\alpha_{o[q]}$ is an outlet-level intercept, $\gamma_{b[q]}$ is a category-level intercept, and $\beta_{b[q]}$ is a category-level trend in the usage of nonobjective quotatives – the effect we are interested in estimating.⁴ Since we are modeling time-series data (one per outlet), autocorrelation may shrink the confidence intervals of model

⁴Alternatively, this model can be written in R notation as $y \sim o + b + b : t$, where y is the same outcome, t is the time in months, and o and b are categorical variables for the outlet and bias category.

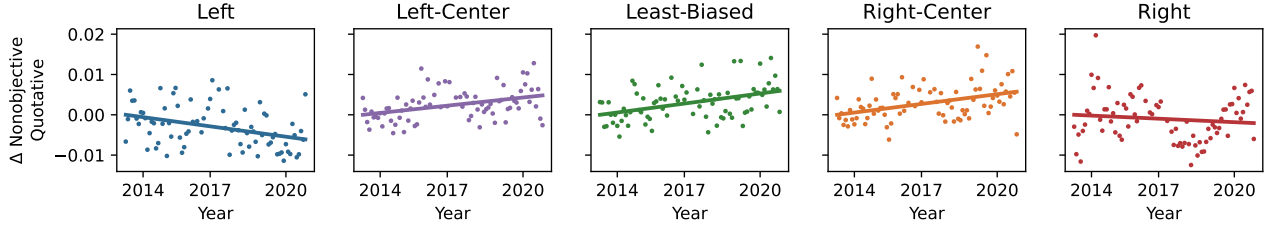


Figure 5: Trends in the usage of nonobjective quotatives across outlets of different political leaning. For each media bias category (one per column), we show the percentage of nonobjective quotatives after performing outlet-level centering and plot a regression line showing the β coefficients estimated in our fixed effects model.

estimates [see Bertrand et al. [5] for details]. To address this, we estimate the model using cluster robust standard errors, clustering on the outlet level [11].

We depict the estimated trends nonobjective quotative usage in Fig. 3 [i.e., the estimated $\beta_{b[q]}$ in Equation (1)]. Although the least-biased outlets used nonobjective quotatives less on average (c.f., Fig. 2), we find that their usage of nonobjective quotatives increases over time. We estimate that least-biased outlets increase their usage of nonobjective quotatives by 0.08% per year and that right-center and left-center outlets increase their usage by 0.10% and 0.06% per year, respectively. If we compare the level of nonobjective quotative usage from 2013 to 2020 (beginning and end of our study), these changes translate to relative increases of 19.9% for least-biased outlets, 21.3% for right-center and 13.6% for left-center outlets. In contrast, left outlets experienced a statistically insignificant decrease in their usage of nonobjective quotatives by 0.12% per year, and right outlets experienced a smaller, not statistically significant increase in usage of nonobjective quotatives (of roughly 0.01%).

We further illustrate the results obtained in the fixed effects model in Figure 4 and 5. In Figure 4, we center the overall quotative usage around 0 and plot the month-level nonobjective quotative usage, along with a regression line capturing the trend. We see that the overall rate of nonobjective quotative usage among all outlets is increasing, and therefore, we argue that quotatives indicate a decline in objectivity in U.S political news. The increase in nonobjective quotative usage in all outlets aggregated in percentage per year (slope) is 0.079% ($p < 0.001$).

In Figure 5, we plot at the outlet category level: we center each outlet time series around 0 and then report the month-level (de-meaned) usage of nonobjective quotatives per outlet category, along with a regression line capturing the trend in each time series. Here, we again see that the usage of nonobjective quotatives increases for centrist outlets, decreases for outlets on the left, and only slightly increases for outlets on the right, although the two latter results were not statistically significant according to the model.

Another way to understand the change in quotative usage is to consider the extremes. We compare how quotative usage changes between the first 12 months (May 2013 - April 2014) and the last 12 months (May 2019 - April 2020) of our dataset. In Table 1, we report the quotatives that experienced the largest changes in terms of absolute percentage points (on the left) and odds ratio (on the right). We find that the usage of the quotative “say”, considered the gold standard of quotatives, fell by more than 10% percentage points. At

Quotative	Percentage Change	Quotative	Odds Ratio
say	-10.18↓	tweet	1 → 17.04
tweet	4.157↑	<i>falter</i>	1 → 11.88
tell	1.843↑	caption	1 → 10.86
write	1.555↑	<i>restate</i>	1 → 6.772
add	1.020↑	<i>remark</i>	1 → 5.614
respond	0.3538↑	<i>punctuate</i>	1 → 4.855
continue	0.3454↑	<i>blurt</i>	4.891 → 1
<i>declare</i>	0.2325↑	<i>disclose</i>	4.911 → 1
<i>remark</i>	0.2159↑	<i>enthuse</i>	6.335 → 1
<i>claim</i>	0.2028↑	<i>exult</i>	15.65 → 1

Table 1: Changes in quotatives used. We report the most changed quotatives between our dataset’s first and last 12 months in absolute change and odds ratio. *Italic highlighting denotes nonobjective quotatives.*

the same time, we see an increase in other objective quotatives (e.g., tell), but this increase does not account for the entire ten percentage points. Lower in the list, we see that nonobjective quotatives like claim, remark, and declare are used more often. Finally, we highlight that quotatives reveal changes in where journalist source their quotes, with both “tweet” and “caption” (usually employed when the speaker uploads a picture or video on social media) experiencing large relative increases in usage.

3.2 RQ2: How Do News Outlets Use Nonobjective Quotatives When Covering Politicians of Different Parties?

Next, we investigate whether the outlets are biased in their quotative usage when they cover politicians from ideologically similar vs. opposing political parties.

Quotative Bias Across Outlet Categories. For each quote q , let $p[q]$ be the party of the politician who uttered the quote. Keeping with the notation in Eq. (1), we again use a fixed effects linear probability model

$$y_q = \gamma b[q] + \eta p[q] + \sigma_{b[q],p[q]} + \epsilon_q, \quad (2)$$

where the dependent variable y_q equals 1 if the quotative used in the quote q is nonobjective and 0 otherwise, $\gamma b[q]$ is a category-level intercept, $\eta p[q]$ is a party-level intercept, and $\sigma_{b[q],p[q]}$ captures the

interaction between pairs of outlet bias category ($b[q]$) and speaker party ($p[q]$). We emphasize that outlet and outlet category are outlet-level attributes while political party is a politician-level attribute. We again cluster standard errors on the outlet level to address autocorrelation. Note that here, we are particularly interested in the contrasts between different combinations of outlet categories and speaker parties, e.g., the difference between how left outlets quote Democratic and Republican speakers (in the model $\sigma_{\text{left,democratic}} - \sigma_{\text{left,republican}}$).

For each media bias category, we show the estimated percentage difference in the usage of nonobjective quotatives for Democratic and Republican speakers in Figure 6. We find that, for every outlet category, there is a significant difference in quotative usage between Democratic and Republican speakers. Notably, this difference is nearly 2%, around a third of the overall nonobjective quotative usage, for both left and right media outlets, which use more nonobjective quotatives when referring to politicians from opposing political parties. For centrist outlets, we see a Democratic bias in the usage of quotatives, with Republicans being quoted with nonobjective quotatives around 1% more for least-biased and left-center outlets and nearly 0.5% more for right-center outlets.

Trends in Quotative Bias. Finally, we investigate if quotative bias has evolved during the study period, using a fixed effects linear probability model:

$$y_q = \alpha_{o[q]} + \gamma_{b[q]} + \eta_{p[q]} + \lambda_{b[q],p[q]}t[q] + \epsilon_q, \quad (3)$$

where the dependent variable y_q equals 1 if the quotative used in the quote q is nonobjective and 0 otherwise, $\alpha_{o[q]}$, $\gamma_{b[q]}$, and $\eta_{p[q]}$ are outlet, category, and party-level intercepts, and $\lambda_{b[q],p[q]}$ is the trend in usage of nonobjective quotatives for each party/bias category combination.

For each media bias category, we depict the difference in the trends of nonobjective quotative usage for Democrats and Republicans in Figure 7. For left and centrist outlets, the gap between how nonobjective quotatives are used to quote Democrats and Republicans is increasing in the study period. These increases are statistically significant and substantial compared to the existing level of quotative bias observed in our data. For example, the estimated contrast of the trend is around 0.33% for left-center outlets, and the existing quotative bias is 1.08%. Thus, the annual relative increase of quotative bias is above 30%. Left outlets exhibit the most increase in quotative bias in absolute terms, at 0.5% per year. For right outlets, we find this difference in trends leans towards Republicans, but the effect is not statistically significant.

4 DISCUSSION

In this work, we analyzed quotatives to study political journalism and sought to answer the following two questions: How has the usage of nonobjective quotatives evolved in U.S. political journalism (RQ1)? How do news outlets use nonobjective quotatives when covering politicians of different parties (RQ2)? To answer these questions, we proposed a method to automatically identify quotatives for direct quotes using dependency parsing. We then extracted quotatives from a large dataset of speaker-attributed quotes, resulting in over 6.7 million quotes over eight years, from 2013 to 2020. By counting the usage of objective and nonobjective quotatives, we analyzed the static and dynamic trends of quotative usage.

We find that the more partisan outlets use more nonobjective quotatives (Figure 2). However, during the study period, centrist outlets (classified as least-biased, left-center, and right-center by MB/FC) experienced a significant increase in the usage of nonobjective quotatives, suggesting that they may be “catching up” to the more biased outlets (Figure 5). We further observe that outlets tend to use more nonobjective quotatives when covering politicians of the opposing ideology, thereby exhibiting “quotative bias” (Figure 6). Last, we find a rapid increase in quotative bias for most outlet categories over time, which may indicate that U.S. political news is becoming increasingly polarized (Figure 7).

These findings suggest that two simultaneous processes are at play: outlets are adopting more nonobjective quotatives overall and the usage of nonobjective quotatives is increasingly “mediated” by the party affiliation of quoted politicians. Both processes indicate a measurable decrease in journalistic objectivity. While detecting bias often requires some level of human judgment to determine neutrality, and while it is debatable how a neutral or balanced view can be presented in any specific context, quotative usage can be regarded as an easily quantifiable form of bias due to its prominence within journalism. There are clear and established rules for the usage of quotes on which journalists have historically agreed, as is evident from textbooks [8, 26, 30] and editorial guidelines [29, 35]. Although objective journalism is a 20th-century invention and could be considered an anomaly throughout journalism history, it is commonly regarded as central to today’s democratic process. In that context, our results indicate a decrease in the level of objective quotative usage in U.S. politics news coverage, which can be seen as a devolution of journalism as a profession.

The ways in which the observed increase in nonobjective quotatives relates to broader trends in U.S. politics and the news ecosystem remains unclear. On the one hand, the observed trend may merely reflect the reality of the news business. As newspapers struggle to retain subscribers and attract clicks [36], outlets (including the least-biased ones) may have succumbed to nonobjective quotatives as they adapt to the fast-paced style of Web-first publishing and try to produce engaging content. Alternatively, journalists themselves may simply be subject to trends of increasing polarization in the general public [1], becoming more prone to Freudian slips when reporting the speech of politicians they (dis)like. On the other hand, the increase in quotative bias may influence people’s opinions about politicians [12] or erode the reader’s trust in the media outlet, as they might disagree with the opinions subtly embedded in the news piece by the writer [18].

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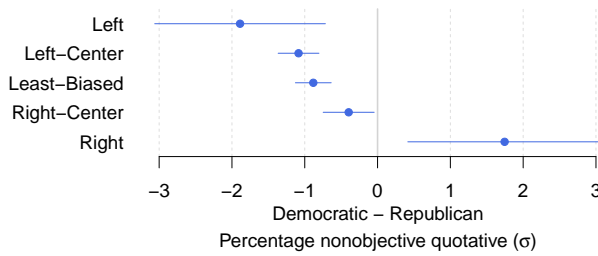


Figure 6: Difference in nonobjective quotative usage between Democratic and Republican speakers. All estimates are significant. Reported differences correspond to the contrasts $\sigma_{\text{democratic}} - \sigma_{\text{republican}}$ in Eq. (2) (in percentage points).

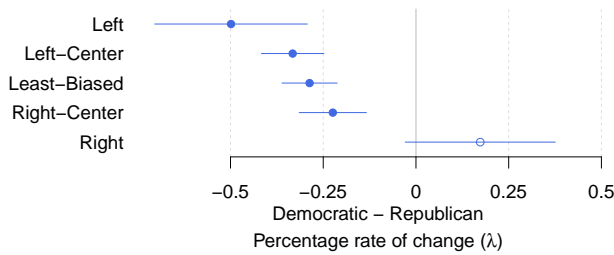


Figure 7: Difference in percentage yearly rate of change of nonobjective quotative usage between Democratic and Republican speakers for each media outlet category. A solid circle denotes a significant effect ($p < 0.05$) and a hollow circle denotes an insignificant effect. Reported trends correspond to the contrasts $\lambda_{\text{democratic}} - \lambda_{\text{republican}}$ in Eq. (3) (in percentage points).

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