Agenda-Setting and Rhetorical Framing by Semantic Proximity:

Multi-Dimensional Concept Mapping of Network TV News

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Abstract

The present study used two established news research paradigms, agenda setting and news framing, along with a ground-breaking application of computerized content analysis and topic proximity analysis, to analyze network TV news coverage during the most recent five presidential campaigns. The news corpus analyzed by QDA Miner, WordStat, and Diction consisted of 831 randomly-sampled stories. By employing the concept of “attribute agenda-setting,” we were able to find a joint point between agenda-setting and framing theory and use it to interpret and explicate the computer-generated visual representations of the topic juxtapositions hidden in the transcripts. We found that the amount of optimism in the candidates’ sound bites is highly correlated with electoral winning margins. The results not only draw a unique statistical/visual picture of how the networks covered the campaigns, but also demonstrate that the programs are appropriate and robust tools for finding hidden patterns in news transcripts, patterns that would be impossible to detect with traditional content analysis methods.
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The quadrennial presidential campaigns in America have become huge events not only for the public, news media, and polling organizations, but also for political scientists and communication scholars. Over the years, considerable scholarly attention has been devoted to network TV news coverage of presidential campaigns (cf. Farnsworth & Lichter, 2003; Coleman & Banning, 2006; Bucy & Grabe, 2007; Zeldes, Fico, Carpenter, & Diddi, 2008). The reason is that the networks remain the dominant source of national and international news for most Americans (Pew Research Center, 2008).

The problem for scholars today is not a shortage of data about news coverage of political campaigns but, rather, with how to bring “meaning” to the results. Stated differently, the task becomes one of being able to visualize and interpret the important news frames in the vast ocean of data points that are available through LexisNexis and scores of other downloadable media databases.

This study overcomes this problem by combining the strengths of three specialized computer programs to analyze large quantities of news reports and a variety of political issues simultaneously. With this capability, we can identify: (1) major topics in the network television news coverage of five consecutive presidential campaigns (1992-2008), and (2) how the networks framed those topics. We used specialized software, described below, to examine word co-occurrences and rhetorical styles as specified by Hart (1984, 2000a, 2001). In addition, this study also responded to the call of Druckman and Parkin (2005) for more attention to the influence of news media on voting results; thus, we correlated vote percentages with the variables Optimism (Hart, 2000b).
Literature Review

Over the years, presidential elections have served as laboratories for the development of agenda setting theory. McCombs and Shaw (1972) correlated the public agenda with the media agenda in 1968 at Chapel Hill, N.C., marking a milestone in mass communication research. Since then, a mounting body of research has confirmed the explanatory power of agenda setting theory and added contextual meanings (Dearing & Rogers, 1996; Ghanem, 1996; McCombs, 2005; Weaver, 1981).

Tuchman (1978) brought the concept of framing from pathology (Bateson, 1972) to communication and contended that framing was how the mass media reconstructed reality. Entman’s (1993) explanation of the concept is among the most accurate and comprehensive. He identified seven dimensions of framing: (1) selecting aspects of a perceived reality, (2) highlighting them, (3) communicating them in a way that promotes, (4) coining a particular version of a problem, (5) interpreting its causes, (6) passing moral judgment and (7) prescribing a remedy for the problem.


McCombs (2005) argued that agenda setting theory deals not only with public issues but sometimes also with attitude objects, which refers to the opinions that an individual has toward public issues. He contended that “when the news media talk about an object – and when members of the
Agenda-Setting and Rhetorical Framing

public talk and think about an object – some attributes are emphasized and others are mentioned only in passing” (p. 546). This expansion of the theory, which McCombs called attribute agenda setting, is significant because it attempts to bridge agenda setting and framing theory. People’s attitudes toward agenda objects are related to how the objects are framed by the media, and attributes – namely, aspects of a central theme – determine the frames (McCombs, 2005). A poll story that appeared on September 4 in ABC’s coverage of the 2004 campaign exemplifies attribute agenda setting:

John Kerry has had an array of issues on which to mount a stiff challenge to George W. Bush. The economy, health care, poverty and the war in Iraq are all problems for the president. And polls show more than half the country believes Bush is leading the nation in the wrong direction. (ABC, 2004)

In this story, the main theme – poll results – did not stand alone. Rather, it was depicted inside a frame consisting of four other topics as attributes: Economy, Healthcare, Poverty and the War. After watching the story, viewers knew not only that half the country thought Bush was wrong, but in which respects and why.

McCombs (1997) maintained that framing was an expansion of agenda setting and functioned as “the selection of a restricted number of thematic related attributes for inclusion on the media agenda when a particular object is discussed” (p. 6). Such a close relationship moves framing into second-level agenda setting (McCombs, Llamas, Lopez-Escobar, & Rey, 1997). In other words, the media process information in two steps: (1) they select topics to tell the audience “what to think about,” which is precisely what agenda setting attempts to theorize; and (2) they reconstruct an internal structure of the
selected topics in a way that some topics become attributes of others, so as to suggest to the audience “how to think about it.”

Another way to look at framing is through the lens of rhetorical styles. These styles also influence how audiences think about a topic. Political scientists have long been interested in how the rhetoric of candidates influences voter perceptions of salient topics (Conger, 1991). An array of studies found a strong correlation between rhetorical style and the perceived greatness of U.S. presidents (Fiol, Harris, & House, 1999; Shamir, Arthur, & House, 1994; Willner, 1984). Most recently, Emrich Brower, Feldman, and Garland (2001) found that U.S. presidents who employed words that evoke mental pictures or sounds (image-based rhetoric) in their speeches were rated higher in perceived charisma and greatness.

Hart and others brought rhetorical analysis to media studies by analyzing not only presidential speeches (Hart, 1984; Hart & Childers, 2005), but also how mass media used their own rhetorical devices to describe political messages (Hart, 2000a; Hart, Jarvis, Jennings, & Smith-Howell, 2005). By comparing the amount of Optimism in presidential speeches from 1948 to 1996, Hart found that politicians, who want to remain in office, seemed to be much more optimistic than the press, functioning as a social critic (Hart, 2000a).

**Research Questions and Hypothesis**

Scholars over the years have struggled to show how the media framed presidential campaigns. Lowry and Shidler (1998) categorized television sound bites into predominately positive, negative, balanced or neutral. Domke et al. (1997) coded paragraphs as for or against Clinton or Dole.
A common deficiency of most studies of this kind is that their coding schemes rarely went beyond simple labels. Few looked at how the media portray campaigns by (1) selecting topics to cover, (2) combining the topics for candidates from different parties, and (3) using rhetorical styles as attributes to frame topics in both overt and covert ways.

How the news media build agendas and how they frame agenda topics remain critical to agenda setting and framing theory. To obtain such a detailed picture over enormous data by hand coding would require a forbidding amount of time. Modern computers with specialized software now can accomplish such tasks and answer the following research questions:

RQ1: What topics were covered most heavily by network TV news during the presidential campaigns of 1992, 1996, 2000, and 2004? How did the emphasis on topics differ in each campaign?

RQ2: How did topic and rhetorical styles differ across the five networks (ABC, CBS, CNN, Fox, and NBC? 

RQ3: How did the topics and rhetorical styles differ among anchors, correspondents, presidential candidates, and their party supporters?

We were particularly interested in the degree of Optimism expressed by the presidential Candidates for four reasons: First, Hart (2001) considered Optimism a key indicator of political personality. Second: U.S. presidents are the biggest cheerleader for the country, a fact evidenced by high Optimism scores of presidential speeches compared with the media’s low scores for the coverage of those speeches (Hart, 1984, 2000a). Third: Presidential rhetoric exerts social effects that have long interested scholars. For example, Wood, Owens, and Durham (2005) discovered that the relative Optimism of presidential remarks influenced economic performance by changing consumer spending
decisions. Zullow and Seligman (1990) analyzed speeches accepting party nominations and found that candidates who were the most pessimistic lose nine out of ten times, and the victory margin was proportional to the difference between the amount of Optimism. The researchers concluded that U.S. voters place a premium on hope. The final reason derives from our comparison of what the candidates said and what the media said the candidates said (Zullow & Seligman, 1990), as well as the influence of gate-keeping on voting decisions. If, despite the competition from alternative media, a majority of American voters still learn more about their candidates from network TV than from any other source, and if presidential candidates’ own words seem to hold more authenticity in voters’ decision making (Tsfati & Cappella, 2003; Authors, 2008; Zullow & Seligman, 1990), then the candidates’ sound bites should have extraordinary power to influence the direction of the voting. Therefore, we hypothesized:

H1: Differences in Optimism scores of the both parties’ candidates sound bites are positively correlated with the winning margins of all five elections.

Method

A carefully built dictionary was critical to this study because it answered the first half of RQ1, dealing with which topics were heavily covered by network TV news during the four presidential campaigns. The dictionary also reflected themes buried in the coverage, facilitating the answers to the rest of the research questions.

Dictionary-building began with WordStat 4.0, the program used to plot semantic proximity. It uses word-stemming to reduce the number of words to those with the same roots and excludes conjunctions, articles, pronouns and other irrelevant words. Only words with a frequency above 20
were retained. They were then grouped into categories with the program’s thesaurus. Less relevant
categories, such as broadcasting, were purged.

Six major themes emerged: Economy, Security, Polls, Religion, Democrat and Republican. The
last two were not agenda topics, but they proved valuable in exploring relationships (i.e., proximities)
between themes and parties. The final step was to scrutinize every keyword in each category and to use
WordStat’s keyword-in-context feature to detect semantic ambiguities. When an ambiguity was
detected, a rule to eliminate it was written into the dictionary.

To visually present the structure of second-level agenda setting, we employed the technique of
topic proximity. For example, in the previous example of John Kerry, a tabulation of word
coco-occurrence finds polls, economy, health care, poverty, and the war mentioned frequently and
together. When the analysis is run on a large sample, a general framing pattern of stories about polls
will emerge.

To uncover the rhetorical styles of the media, we used a microscopic investigation of
politicians’ sound bites. They served as a window into the way media “gate-keep” political
information.

To detect and quantify rhetorical styles, Hart (1984, 2001) developed Diction, a
Windows-based computer program that uses 35 mutually exclusive semantic variables and five master
variables -- Activity, Optimism, Certainty, Realism and Commonality – as well as 35 subfeatures
(Hart, 2000a). No word is duplicated. Diction reports raw totals, percentages and standardized scores,
and gives normative data for each score based on a 20,000-item sample of contemporary discourse.
Norming permits a tested sample to be compared with a broad database. Because the
dictionaries in Diction are general, the program is not discipline- or subject-matter dependent. For
example, the score for Optimism measures positive entailments in rhetorics. It is tabulated as:

$$\text{Optimism} = \text{Praise} + \text{Satisfaction} + \text{Inspiration} - \text{Blame} - \text{Hardship} - \text{Denial}$$

The beauty of this approach is that (1) scoring has been standardized and normed, allowing
scholars to compare rhetorical styles across disciplines, and (2) the computer allows the analysis of
much larger databases than would be practical if the work had to be done by hand. Hart’s approach to
the analysis of rhetorical styles has been adopted by researchers from a wide spectrum of disciplines,
including business (Alexander, Ober, Zhao, & Davis, 1999), law (Allison & Hunter, 2006), psychology
(Bligh, Kohles, & Meindl, 2004), and information technology (Hunter, 2003).

This study takes full advantage of these benefits to compare how four television networks
covered four presidential campaigns. We used as independent categorical variables the campaign year,
the network, and the sound bite.

*Concept mapping*

Concept mapping provides a relatively new and objective way of studying agenda setting and
framing in campaign news. Miller and Riechert (1994) defined concept mapping as a computerized
multidimensional scaling technique that generates maps of content themes based on two simple textual
analyses: keyword frequency and keyword co-occurrence – both widely used variables in textual
analyses. We used the technique to identify main themes (agenda topics) and to indicate the
relationship between them (topic proximity). Because concept mapping involves little human
intervention, it is ideal for addressing complex topics that include numerous issues and diverse viewpoints in a large corpus (Miller & Riechert, 1994).

An expected frequency value for a keyword is calculated by dividing its overall frequency in the whole dataset by the number of variable values. For example, if the word “economy” appeared 1,000 times in the dataset, and our variable of interest – the year – has four values (one for each presidential election), the expected frequency will be 250 (1,000/4). A chi-square analysis is done by comparing the keyword’s frequency against its expected frequency. The choice of keywords for concept mapping is based on chi-square rank, not on frequency rank. The higher the chi-square value, the more likely that the keyword will be used to draw concept maps, because such a keyword not only indicates a certain theme or topic, but also maximizes variability across categories.

One problem with a map derived directly from such a method is that the number of keywords makes the map too large for easy interpretation. Cluster analysis usually solves the problem. A cluster of keywords becomes a theme.

Salton (1970) provided a way to assign horizontal and vertical values so the keywords can be positioned on a two-dimensional map. The relative position of a theme is computed by the horizontal and vertical eigenvalues of the keywords associated with the theme, and the size of a theme is determined by the prominence of the eigenvalues of its keywords. For example, a concept map will show which broadcaster was most likely to relate the Iraq war to the economy in Campaign ’04 by showing a short distance between them. Also, statistics are run to show whether the differences in distances are significant. Another example would be if CBS tended to relate the National Guard record theme only to Bush, while other networks shared it with Bush and CBS or Dan Rather.
Miller, Andsager, and Riechert (1998) were the first to use this technique to compare the agendas in the press releases of presidential candidates with the agendas in network television reports. They concluded that concept mapping provides “an interpretable representation of candidate images in both press releases and news stories” (p. 322). This approach is inductive and allows patterns to emerge from the data rather than having them imposed by the researcher.

Sample

The content universe for the study was composed of all weeknights from August 24 through October 30, 1992; from September 1 through November 1, 1996; from August 21 to November 3, 2000; from September 3 through November 1, 2004; and from September 8 through October 31, 2008. For each campaign, a random sample of 25 network newscasts was drawn from ABC, CBS, CNN and NBC. Fox was added for Campaign ’04 and ’08. Fox transcripts for Campaign ’00 were not available from LexisNexis.

The newscasts were screened in two steps: First, we located every campaign story about a presidential or vice presidential candidate. Then we screened for keywords such as president, vice president, presidential campaign, and the names of the four candidates for that campaign. The result was a corpus of 831 news stories, broken down into 93 stories from 1992, and 77 from 1996, and 182 from 2000, and 280 from 2004, and 199 from 2008. The databases for Campaigns ’92 and ’96 were borrowed from earlier published studies (Lowry & Shidler, 1995, 1998), while the databases for Campaign ’00, ’04, and ’08 were downloaded from LexisNexis.

Coding
All the stories in the sample were organized in chronological order in QDA Miner (Provalis Research, 2005). Two coding units were used: news story and sentence. At the newscast level, the coding categories included campaign year (1992, 1996, 2000, 2004, 2008) and network (ABC, CBS, CNN, Fox, NBC). At the sentence level, we coded sound bites by their source (Anchor, Correspondent, Democratic Candidate, Republican Candidate, Democratic Supporter, Republican Supporter, and All Others). Several other coding rules were employed. For example, an unknown critic of Candidate A was not automatically coded as a supporter of Candidate B. The rationale was that the speaker might be negative toward both candidates. Therefore, without other information, such a negative speaker was coded as “All Others.”

Four coders completed the initial coding of the entire corpus (N = 831 stories). Then 20% of the stories were drawn at random for double coding, which high intercoder reliability (Scott’s Pi = 0.868).

RQ2 and RQ3 ask about different versions of semantic proximities among topics and rhetorical styles. To transplant the strength of Hart’s methodological framework from Diction to WordStat, keywords that form four master variables (Certainty, Activity, Optimism, and Realism) in Diction were added manually to WordStat’s dictionary, where each variable has three levels. For example instead of accepting Diction’s omnibus score for Optimism, we partitioned it into two secondary variables -- Optimism and Pessimism – and further subdivided it into third-level variables such as “Praise” for Optimism and “Blame” for Pessimism. Thus through semantic proximity analysis, we could easily find out which topics or parties were framed by an optimistic or pessimistic rhetorical style.
For RQ4, we used Diction and SPSS to answer the question. Two reasons related to distinct features of Diction justified this approach. First, the dataset for RQ4 can be produced only in Diction because the question involves the relationship between two independent variables (Party and Year) and one dependent variable (Optimism). Second, Diction offers a function to compare style scores against normative values. We were particularly interested in comparing the Optimism in candidates’ sound bites with the normative range for Optimism in presidential campaign speeches between 1948 and 1996 (Hart, 2000b). For example, an Optimism score of 64.2 would be considered “out of range” or “unusually high” because, according to Diction, the Optimism scores in presidential campaign speeches normally range from 47.67 to 53.67.

To prepare appropriate data for H1, we exported the candidates’ sound bites from QDAMiner to plain text files, imported them into Diction, and labeled each paragraph by party and year. We used the paragraph as the coding unit. Since Diction’s results can be submitted easily to SPSS, we quickly obtained an SPSS datasheet of 3,102 cases for ANOVA. To find out if Optimism and voting were correlated, we used (1) the winning margin (based on electoral votes) of each campaign (standardized in percentage) and (2) the differences of Optimism scores of both parties’ candidates’ sound bites of the campaign. We selected Kendall’s Tau-a instead of Pearson Product Moment because neither variable was normally distributed.

**Results**

Network coverage of the Economy and Security differs significantly (p <.05) by year, driven largely by specific news events. Religion remained relatively stable at a low level. Table 1 shows the keyword frequency distributions of the topics by each campaign.
Coverage of the economy declined from 45.2% in 1992 to 15.3% in 2004, the topic jumped to 47% and dominated all other topics in 2008. Poll stories were perennial favorites without much fluctuation, ranging from 39.7% to 44.1%. Poll stories slid in 1996 but bounced back in 2000 and 2004 because the races were close. As might be expected, coverage of security surged in 2004, the first presidential election after the terrorist attacks of 9/11.

Figure 1, a proximity plot, relates each topic to a year. For example, the acute angle created by connecting “poll,” the origin, and “2000” indicates that newscasts during Campaign ’00 covered poll stories more than in any other year. The proximity relationship between topic and year should be interpreted cautiously: the acuteness of the angle shows the degree of how frequent a topic surfaces in a particular part of the corpus (i.e. campaign 2004’s transcripts), whereas the distance between the topic and the year is in proportion to the exclusiveness of the topic to that year. Accordingly, security’s unusually long distance from the origin and its acute angle to 2004 indicate that the topic tended to be an exclusive topic in 2004, which is in line with Table 1. Likewise, economy dominated campaign ‘08, followed by campaign ‘92.

RQ2 asked how the networks employed rhetorical styles to frame topics discovered by RQ1. The framing pattern is indicated by the proximity plot in Figure 3. Table 2, Figure 2, and Figure 3 in combination answer RQ2 by showing the following patterns: (1) CNN and Fox were much more interested in Security coverage than other networks, whereas CBS and NBC tended to emphasize economic issues; (2) ABC, CBS, and NBC tended to be more “realistic” and “certain” than their cable counterparts, because their language described tangible, immediate, recognizable matters that affect people’s everyday lives. Note that Fox’s coverage was the most unbalanced because it mentioned
Democratic candidates more often than it mentioned the Republican candidates (10.8% to 8.6%; see Figure 2).

Figure 4 helps to visualize the patterns of how topics, rhetoric styles, and sound bites interact with each other, which RQ3 asks about. The source of each sound bite (e.g., anchor, candidate, supporter) shows significance differences in rhetorical styles. Figure 4 revealed the following patterns: (1) The proximity of Economy, Security, Pessimism, and Uncertainty indicated that they had similar distribution patterns, and therefore coverage of the Economy and Security tended to not only appear together in newscasts but also was often framed by pessimistic and uncertain rhetoric styles; (2) the grouping of Republican Candidates, Democratic Candidates, and Optimism suggests that both candidates employed extensive use of optimistic styles in their sound bites; (3) anchors tended to be neutral and reported on poll stories; (4) correspondents’ sound bites gave balanced coverage to both parties.

H1 predicts a positive correlation between the differences in optimism scores of sound bites from both parties’ candidates and the winning margins of all five elections between. A two-way ANOVA showed that the amount of Optimism in the sound bites of presidential candidates served as an excellent indicator of voting results. The analysis showed statistically significant interaction between year and party on Optimism, F (4/3092) = 2.65, p = .042 (See Figure 5). The difference in each year’s Optimism scores was processed with the winning margins (in electoral votes) of the corresponding years by using Kendall’s Tau-a correlation procedure. An unusually strong correlation (r = 1, p = 0.01) with statistical significance at .01 level supports H1, despite the small sample size (N = 5 campaigns). It is worth noting that the overall Optimism mean of the candidates’ sound bites (M =
48.98) was at the lower end of a “normal range” (M = 47.56 to 53.67) that Diction provides for political campaign speeches.

**Discussion**

The methods used in this study bring considerable advantages as well as some limitations. QDA Miner and WordStat provide a streamlined workflow to collect, organize, code, and analyze texts. Sorting out media news agendas has never been both easier and, at the same time, more rigorous. A general index of agenda topics was obtained by using a carefully developed dictionary with the help of automated frequency analysis. This index emerged inductively from the corpus, not imposed deductively. Though this approach relied on induction, a method for which grounded theorists were often criticized because it may readily introduce subjectivity, the computerized approach successfully limits subjective judgment calls and makes finding media agendas a more scientific process.

Proximity analysis – combining topic and rhetorical styles – also is an innovation and a contribution of this study. The research design and the findings benefited greatly from the capabilities of WordStat and Diction. The 2D and 3D maps not only help to visualize the tables but also uncover proximities among agenda topics and rhetorical styles. An earlier study (Authors, 2008) found that despite Fox’s more coverage on Democratic candidates, it tended to associate pessimistic rhetorical style with them. However, the propensity disappeared when campaign ’08 was included in the sample. The lack pessimistic style targeting primarily to Democratic candidates is in fact echoed by the CMPA’s finding that Fox’s commentary was negative to both Obama and McCain (Center for Media and Public Affairs, 2009). The capture of this subtle but significant shift in tone demonstrates the capability of proximity analysis accurately to track longitudinal dynamics of campaign coverage. Even
though computerized content analysis has been used by a large number of communication scholars in
the past 50 years (Diefanbach, 2001), this study, to the best of our knowledge, is the first to use
computerized methods to study both agenda setting and framing simultaneously and show how
prominent election news topics were framed in the five most recent campaigns.

The significance of this study also resides in the visual presentations of topic/rhetorical style
proximity. The visualizations of data represent a substantial step forward toward integrating computer
technology with the theoretical framework of agenda setting and framing. The networks’ two-step
process of information selection and reconstruction has been successfully described by the software’s
theme identification and concept-mapping technologies. Table 1 shows that the predominant campaign
issues in network news agenda were often related to concurrent concerns of the American society (e.g.
Security in 2004 and Economy in 2008). Furthermore, the proximity of two campaign topics (Security
and Economy) and two rhetorical styles (pessimism and uncertainty) eloquently shows us how these
two topics were framed rhetorically. Support for both the agenda-setting and framing patterns also
comes from Lowry’s (2008) research, which discovered that network news tended to devote more
coverage with more pessimistic tones when the Dow went down.

The pessimistic framing of economic issues also helps us gain a holistic picture of the 2008
campaign. Since Barack Obama has long been criticized for his overly optimistic talks (National
Public Radio, 2009), we were somewhat surprised that his sound bites did not show the highest
Optimism scores compared with earlier presidential candidates (see Figure 5). Then we realized that
how much a candidate showed optimism in his sound bites is situated within two interrelated
contextual factors. First, optimism is sifted through the news media’s gatekeeping, which means that
what the optimism in a candidate’s speech may differ significantly from what ends up on the screen.

Second, the selections of sound bites were under a background of extensive coverage on the stumbling economy with an overwhelmingly pessimistic tone. Our sample of Campaign ’08, for example, contains highlights of town hall meetings and other gatherings that present heavily the candidates’ remarks on the economic downturn. These two mediators, we believe, coherently mitigate Obama’s Optimism score, as well as the average optimism score of both candidates in 2008.

It, nonetheless, must be pointed out that the limitations of the approach should be understood to avoid over-generalization. As Scheufele (2000) pointed out, media framing is a cognitive process of both news media professionals and their audiences. It is affected not only by the topical structure that agenda setting contributes, but also by ideological contexts, which are difficult for automated computer processes to quantify. Therefore, concept mapping may be combined with other methods to explore both the denotation and connotation of agenda setting and framing.

The longitudinal design restricted the number of agenda topics, because some belonged almost exclusively to one campaign. George W. Bush’s military records and John Kerry’s volatility were such topics. Security was an exception. Although it was covered marginally in previous campaigns, we kept it in the dictionary because of its overwhelming coverage in Campaign ’04.

Despite the unusually high correlation between Optimism and electoral victory, we hesitate to use the word “predictor” because an analysis of five campaigns is insufficient to establish solid predictive power of an indicator. We also wonder about the reasons for the correlation and how this correlation might help us gain a better understanding of network framing. Differentiating the influences from various sound bits on the perception of candidates might be the first step in examining
the persuasive power of candidate sound bites. Another direction might be to examine the difference between actual campaign speeches and network sound bites to shed light on the media’s mediating role in presidential campaigns. Not only did the news reports sound much less optimistic than the politicians (Hart et al., 2005), but also the comparison between the normative Optimism scores of campaign speeches and the scores of candidate sound bites shows a significant disparity. We believe that this finding might open a window to a new line of comparative research.

Semantic proximity analysis may be used as a foundation for further quantitative or qualitative inquiry (Miller, Andsager & Riechert, 1998) for a number of reasons. The method was born to integrate both qualitative (inductive) and quantitative (deductive) elements. The combination allows researchers to enjoy the naturalistic merit of the inductive approach along with the rigor of the deductive method and inferential statistics. The visual representation of information helps researchers quickly spot existing patterns and emerging trends buried in massive data (Chen, 2004). Specifically, this method is able to produce results that will help future researchers propose sound hypotheses or refine in-depth coding themes. It is, we believe, a major advance over traditional content analysis.
References

ABC. (2004). 56 days to go John Kerry's campaign: ABC.


Table 1

*Major Topics Covered by News Networks across Five Presidential Campaigns*

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>56.8%</td>
<td>11.0%</td>
<td>22.6%</td>
<td>44.1%</td>
<td>9.5%</td>
<td>21.79</td>
<td>0.00**</td>
</tr>
<tr>
<td>Economy</td>
<td>45.2%</td>
<td>46.6%</td>
<td>15.1%</td>
<td>15.3%</td>
<td>47.4%</td>
<td>8.69</td>
<td>0.00**</td>
</tr>
<tr>
<td>Poll</td>
<td>44.1%</td>
<td>41.4%</td>
<td>53.9%</td>
<td>36.7%</td>
<td>39.7</td>
<td>2.22</td>
<td>0.06</td>
</tr>
<tr>
<td>Religion</td>
<td>5.0%</td>
<td>1.0%</td>
<td>8.4%</td>
<td>4.0%</td>
<td>3.4%</td>
<td>1.84</td>
<td>0.12</td>
</tr>
</tbody>
</table>

*Note:* * indicates statistical significance at 0.05 level, and ** at 0.01 level. Column percentages are shown. Relative Student’s Fs are calculated.
Table 2

**Major Topics and Rhetorical Styles across Networks**

<table>
<thead>
<tr>
<th></th>
<th>ABC</th>
<th>CBS</th>
<th>CNN</th>
<th>FOX</th>
<th>NBC</th>
<th>F</th>
<th>P(2-tails)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#Activity</td>
<td>7.1%</td>
<td>7.3%</td>
<td>9.2%</td>
<td>9.2%</td>
<td>7.7%</td>
<td>13.38</td>
<td>0.000**</td>
</tr>
<tr>
<td>#Certainty</td>
<td>13.2%</td>
<td>11.9%</td>
<td>10.7%</td>
<td>10.7%</td>
<td>11.2%</td>
<td>3.11</td>
<td>0.015*</td>
</tr>
<tr>
<td>#Inactivity</td>
<td>2.8%</td>
<td>3.3%</td>
<td>3.7%</td>
<td>3.7%</td>
<td>3.2%</td>
<td>1.32</td>
<td>0.262</td>
</tr>
<tr>
<td>#Non-realism</td>
<td>1.0%</td>
<td>1.1%</td>
<td>1.3%</td>
<td>1.3%</td>
<td>1.2%</td>
<td>1.01</td>
<td>0.402</td>
</tr>
<tr>
<td>#Optimism</td>
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*Note:* * indicates statistical significance at 0.05 level, and ** at 0.01 level. Pond signs indicate rhetorical style. Column percentages are shown. Relative Student’s Fs are shown.
Figure 1

Proximities among Topics, Rhetorical Styles, and Years
Figure 2

*Figure 2*

A Comparison of the Amount of Coverage Devoted to the Democratic Party and the Republican Party across Networks
Figure 3

*Proximities among Topics, Rhetorical Styles, and Networks*
Figure 4

*Proximities between Topics and Sound bites*
Figure 5

*Interaction Plot of Optimism Scores Varied by Party and Year*