

*Controlling Nature:
Weathercasts on Local Television News*

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Abstract

Since discovering the shrinking politician sound bite, researchers have shown that TV news grew more journalist-centered since the 1960s. To explore how far journalistic authority extends, this study turns to the weather. We examine local coverage weekday mornings on three local stations before a national convention. Close qualitative reading, supplemented by content coding, compares weather rhetoric, tone, and style during segments. Weathercasters raise concerns during weather reports, which they soften during banter. Most surprising is their rhetorical claim to control nature. They personify weather, but ignore the audience. Accuracy in forecasts relates to the visual style and ratings of the station. (100 words)

Keywords

audience, Boston, content analysis, forecasts, journalism, local, meteorology, narrative, nature, news, ratings, rhetoric, science, television, tone, United States, weather

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I get the news I need on the weather report. Oh, I can gather all the news I need on the weather report. Hey, I've got nothing to do today but smile.
—Paul Simon, *Bridge Over Troubled Water*, 1969

Weather has become more than small talk. Storms have been the biggest news stories in recent years, and controversies have swirled around the coverage. In blogs and on-line discussion groups, charges of sensationalism abound. After flooding in New Jersey, one reporter during a live broadcast got caught exaggerating: two men walked between the camera and her canoe, which sat in just two inches of water (“Media Sensationalism,” 2005). Weather announcers, who previously turned up as buffoons in bit parts in popular fiction, also became central characters. In the 2005 Paramount movie, *The Weather Man*, Nicholas Cage plays a popular Chicago television personality, trying to maintain professional control.

Previous studies of weathercasting are out of date and treat their subject as a set of professional techniques or as elements of industry history and economics. To advance research on a neglected topic, this case study asks what is the rhetoric of daily weather reports on local television? What roles do on-air personalities take for *themselves* and assign their *audiences* while telling stories about *nature*? Based on a close reading and content analysis of morning weather segments that ran on local outlets of three major broadcast networks, we examine the differences between narratives when reporting and making small-talk about weather, as well as the relationship between weather rhetoric and the station’s market position. By looking at the conditions forecast over several days, we develop some preliminary clues about accuracy in forecasting the weather in a case study of U.S. television.

Weather as Media Talk

Media studies and rhetorical studies have usually existed as separate domains, but they do find common ground in the study of narrative (Fisher, 1987). Early information-theory models of mass communication, in which a sender transmits a message over some

channel to a recipient, contain the main elements of narrative: a teller conveying a story to a hearer. Rhetorical analyses show that those elements are much more complicated in actual discourse (Booth, 1983). Recipients may have multiple manifestations, from merely implied to directly dramatized. The same is true of the sender, who can also be distinct from the narrator (Martin, 1986). Rhetorical studies of narrative also show that the third element in the model, the message itself, can be a complex iteration of other kinds of communication, whether public or private, talk or text. The message conveyed through the language of the media also refers outside the model to an external world (Bell & Garrett, 1998). These three dimensions are the focus of this study: the first persona announcer engaged in public speech; the second persona (Black, 1970), a projection of an audience or public listener-witness; and the third persona (Wander, 1984), Nature, represented by the scientific world of weather.

The bulk of news speech is made up of acts of assertion (Van Dijk, 1988), that is, the on-air speaker formulates meanings, not only to make these intelligible but also to encourage their acceptance as truth. Weather reports in the media are a particular subset of science communication, because they call on meteorology to buttress their claim to truth. One survey found that weathercasters say their forecasts teach audiences about science as a public service (Wilson, 2008). Early scientific scrutiny, however, found that media weather reports generally fell short of scientists' expectations (Tannenbaum, 1963; Murphy, 1975). Today, weather news relies on standardized national data, and agencies expect advances in the accuracy of forecasts ("Report 2," 2006). But no recent, non-proprietary media studies examine weather forecast accuracy.

Weathercasters also relate scientific data to everyday life. Their explanation of how audiences should make sense of weather data is the "most prominent rhetorical function" of media weather reports, according to an ideological analysis of Weather Channel discourse (Meister, 2001, p. 414). Weathercasters occupy a translator's position. As they convert their knowledge of meteorology into understandable language, they reproduce (and generate) stories that have political dimensions (Wilson, 2002).

Little is known about the audience for weathercasts. Studies of mediated science information suggest that public beliefs "tend to correspond with the messages conveyed in the media" (Nelkin, 1995, p. 69). One recent critical reading of cable weather discourse found that technology shaped the responses of a small group of viewers as a front passed through the United States during three days in 2003 (Vannini & McCreight, 2007). Generally, weather coverage establishes "a framework of expectations" for audiences to make sense of isolated events, often through the use of metaphors, which "reinforce one another, creating powerful images" (Nelkin, 1995, pp. 72–73). Personification of the weather has been a principal means to make forecasts accessible to audiences since the early days of television, when a meteorologist named Louis Allen began giving weather features personalities in the 1940s, as in "here's our old friend the seventy-five-degree line . . . At the moment, no sign anywhere near us of that old bugaboo the ninety-degree line that kept us stewing for awhile" (cited in Henson, 1990, p. 34).

Like most professional communicators, weather announcers know little about their audience, and critical scholarship asserts they "are not just ignorant . . . , they are uninterested" (Bell, 1991, p. 89). Without direct knowledge about information recipients, news professionals construct their own images of the audience (DeWerth-Pallmeyer, 1997). The audience may loom large in the imaginations of weathercasters, but actual viewers have little to do (beyond audience ratings) with the audience image discernible in the texts media professionals produce. Rhetorically, the audience is universal and therefore invisible (Kinneavy, 1971), and so viewers occupy a paradoxical position of power and powerlessness.

Weathercasters have received little scholarly attention (Trapasso, Bowman, & Daniel, 1985), especially in recent empirical research. Media critic Ron Powers (1977) says that, along with TV anchors, chosen more for personal attractiveness and showmanship than for acumen, they at first represented "a radical discontinuity with journalistic tradition" (p. 2). Like other elements of U.S. television news, weathercasts turned to so-called happy-talk in the 1970s, the banter designed to increase ratings. Powers says that U.S. newscasts were "built around the weatherman-jester" and that the weather be-

came “the emotional climax of the show” (p. 37). Recent industry reports reaffirm that “personality-driven” weather programming aims to “garner viewers” (Wheaton, 2006, p. 28). But meteorological accreditation marks weathercasters as less independent and lower “in the journalism pecking order,” according to trade sources (Jensen, 2006, p. 34). It is odd that so central a player in everyday news has had little scholarly attention.

Journalist handbooks tend to focus on training future weathercasters to avoid “real whoppers,” such as “the thermometer is falling” or “expect a widely scattered shower” (MacDonald, 1987, pp. 42–43). These sins against usage and sense accompany the tendency to personify weather, as in “Hilda—never a lady and now no longer a hurricane” to describe a storm that resulted in thirty-five dead and millions in property damage (Baskette, Sissors & Brooks, 1997, p. 116). Weathercasters seek to avoid such gaffes to preserve their credibility, which makes them bankable personalities who can “reap the benefits of cross-promotion” (Thompson & Malone, 2004, p. 68). Like handbooks, consultants at trade conventions promise better weathercasts but may make reports more uniform (WSI, 2001).

The substance of television weather reports has had some attention as history (McAllen, 1979). Bob Henson (1990), a commentator on the U.S. National Public Radio (NPR) series, “The Weather Notebook,” published a lively aficionado account of weathercasting. The large cultural changes in home climate control and clothing during the mid-twentieth century accompanied the rise of television weather reports (Meyer, 2000). Home heating and air-conditioning helped foster an expectation of comfort, which television may have reinforced, although historians have not shown how media reports of weather feed back into cultural change. Television weathercasting began on October 14, 1941, when cartoon character Wolly Lamb sang a jingle and experimental station WNBT-TV displayed “a single screen with several lines of text, but no map” (Monmonier, 1999, p. 179), to an audience of a few thousand in New York City. Although weather began with a strong link to entertainment, the reports have also allowed television to highlight and draw authority from technology. The use of chroma key (along with careful choreography) permits the announcer in front of a plain

blue background to appear as if standing before and controlling maps and weather animations. Along with better national data, equipment has helped shift weathercasters from comedic to serious roles, without sacrificing entertainment values.

Weather is an economic asset, the rise of the Weather Channel on U.S. cable being perhaps its most prominent demonstration. A business history of the channel describes how initial planning focused on meteorologists as “friendly, accessible, solid citizens,” as well as on “the pace of the programming” (Batten, 2002, pp. 100–101). The channel sought to create a hybrid genre of so-called *infotainment* and succeeded by finding sponsorship and sustaining an audience, two key factors for survival in the U.S. media system.

The scant literature related to TV weather points to three key questions: How does weathercasting depict a (third persona) natural world through science: how does it project a (second persona) audience to witness that world: and how does the (first persona) announcer balance demands for being entertaining and authoritative, while employing technology? All three questions exist on the larger economic and cultural stage of for-profit media in the United States and are also elements of journalistic authority. Research has shown that journalists advanced as a class of workers in the twentieth century (Hess, 1981), acquiring greater control over patterns of discourse in the media, as the voices of politicians and citizens declined (Barnhurst, 2005). Generally, the pattern of innovation in journalism has progressed from the periphery of professional practice—features and soft news—onto the main stage of hard news on the front pages (Barnhurst & Nerone, 2002). Weathercasting thus seems a likely venue, away from the anchor chair, for studying the authority of journalists on television.

Although they once often devolved into versifying and other stunts, weathercasts, studies suggest, are “the major reason that people watch” television news programs (Henson, 1990, p. 2). In Britain weather information has documented effects on audience decisions, influencing the economy and public policy (Smith, 1993). Although some research exists on risks (including weather disasters) and accuracy of coverage (e.g. Singer & Endreny, 1993), we could find no analyses of daily weather segments in the literature. Descriptions of the techniques and origins of TV weather ex-

ist, as well as critical analyses of the Weather Channel, but no research examines texts of weather forecasting.

Studying Local Weather

We wanted to study local TV forecasting at its best, when the presenters would be especially serious and conscious of their civic responsibilities. A major predictable media event would serve that purpose (Dayan & Katz, 1992). A season with moderate weather would likely keep the coverage in the hands of weathercasters. In extreme circumstances, other reporters or anchors take over weather stories. To allow for close comparisons of weather as well as market conditions, we sought a single location with several competing broadcasters. We planned to analyze early morning weather reports (away from afternoon thunderstorms and prime time) during local programming, when journalists, in anticipation of the daily commute, might be most likely to talk about or at least refer to their audiences' needs and interests.

The 2004 Democratic National Convention met all of these requirements. It was scheduled to take place during summer in Boston, the sixth largest U.S. market, with more than 2.4 million television homes. Because of the convention dignitaries, as well as the disruption of traffic for security, the morning weather reporting could be serious and substantial.

We next had to choose which cases to study. The Boston television market has more than a dozen broadcasters, but the strong VHF signal belongs to three stations: CBS network's WBZ-TV 4, ABC affiliate WCVB-TV 5, and NBC affiliate WHDH-TV 7. These stations have the highest ratings and broadcast regular, locally produced morning news with frequent weather segments. In 1972, ABC-5 news moved "to the top of the ratings and has remained there more or less ever since" (Wollman & Fybus, 2005, n.p.). After undergoing staff and format changes in the early 1990s, WHDH-TV 7 began to challenge the other two stations in the ratings, forcing them "to speed up the pace of their newscasts to keep up," and then joined NBC in 1995. After WBZ-TV 4 became CBS network owned and operated (O&O) in 1995, local news ratings "declined precipitously."

Our case sample also met the highest available standards in the community of journalists (Rosenstiel & Just, 2002). All three stations took part in the Project for Excellence in Journalism Local TV News Project, which measured quality for stations in seventeen U.S. cities from 1998 through 2002. By the end of the study, the three Boston stations shone nationally. NBC-7 garnered the highest marks of any station, and ABC-5 achieved an A grade that ranked second in the national study. CBS-4 saw its quality fall somewhat, but remained known for stable personnel and reserved style, "the TV equivalent of comfort food — solid traditional and local" (Corporon, 1999, p. 2). It has long suffered from low audience ratings, but was closing in on the competition by the end of the Local TV News Project.

In short, our study sampled purposefully, targeting the most comparable stations with both market importance and professional standing, during a period likely to show weathercasting at its best.

We videotaped the three stations on weekday early mornings from Thursday, July 22, through Thursday, July 29, beginning just before and running through the convention. A technician transferred the weather segments to digital recordings containing the length in seconds, along with the station and date.

The segments included all cases of weather-related material during the newscast. As part of each segment, we also gathered information on *banter*, the chitchat between anchors and the weathercaster, no matter how brief, unless it was just a *hand off*, as in, "Back to you, Sandy." We also classified the tone of each segment, as negative, neutral, or positive, categories from previous research for coding when news announcers express qualifiers or other affect during coverage (Barnhurst, 2003).

To gauge how the weathercasters positioned themselves, nature, and their audiences in their stories, we identified the role each persona played in the narrative. For weathercasters, the roles included controller of weather, messenger (mere source of information), some other role, or no role (the latter two applied to all three personae). For nature, the roles included dangerous (powerful, threatening, forceful), mixed (changeable, unpredictable), or benign (gentle, friendly, healthful). For the audience, roles included sheltering (protection, survival, defense), producing (work, commuting, eco-

nomics), or enjoying (recreation, sports, leisure). We developed these categories critically, along a continuum from the most to least severe weather conditions, to capture the strongest statements of weathercasters.

To look more closely at the packages, we noted the presence or absence of video, graphics, or both, and, for the longest package during each broadcast, we recorded the forecast for the date of the broadcast and for the final date of the week-long study. Details included the high and low temperatures, expected precipitation, skies (sun, clouds), and other conditions (lightning, wind, fog). These numbers provided context for the narratives that day and also generated a rough indicator of forecast accuracy as the final day approached.

Two coders, after undergoing ten hours of training, independently coded 10 percent of the sample segments, and inter-coder reliability was high for denotative variables ($\alpha > 0.95$ for station, segment type, length, and forecast details). For connotative variables, the reliability was lower ($\alpha > 0.75$ for roles, tone, and graphics), below the standard cutoff (0.80) but above the minimum (0.67) considered sufficient for drawing tentative conclusions (Krippendorff, 2008).

Comparing Segments & Banter

We first compared the rhetoric of the banter with how weathercasters spoke during the overall segments. The mean length of segments was 60.96 seconds, and the length of banter within those segments averaged 13.18 seconds, more than a fifth of the total segment length ($F = 57.63$, $df = 1, 181$, $p < .001$). We considered two main aspects of the rhetoric during banter: the tone and the personae the weathercasters projected onto themselves, the weather, and the public. We found the tone of banter quite different from the general run of weather reporting ($\chi^2 = 33.067$ (2, 1), $p < .001$). Banter was much more varied in tone ($SD = .857$, $var. = .735$) than were the regular segments ($SD = .509$, $var. = .259$), which makes sense given the types of quick judgments the banter often conveys. Overall, however, the banter was balanced between positive and negative tone. By contrast, the segments were slightly negative ($M = 1.97$) compared to the banter ($M = 2.00$). To put these results into

context, other studies have measured the tone of journalism across a range of news topics. Daily newspaper reporting was much more negative than our weather segments on average, and NPR news reporting was somewhat more negative (Barnhurst, 2003). That weather segments would tilt slightly to the negative matches the general shift toward negative tone found in U.S. news.

When taking on a role for themselves, weathercasters in first persona occasionally implied some sort of control over the weather (11.5% overall), versus acting as a mere messenger or source of information (80.2). For example, on ABC-5, the announcer repeatedly used the phrase *hold onto* to describe different conditions, such as “hazy sunshine” and “a lot of clouds” (July 23), and in another broadcast expected to “bring in some clouds along with a couple of showers” (July 26). The weathercaster tended to join a collective *we* as the subject for the sentence, without specifying who else exactly might join in making these things happen.

Although weathercasters usually spoke in concert (perhaps with the news team, the viewers, or both), in some cases they asserted personal control over the weather, either indirectly or directly. Indirect control usually worked through technology, such as the instances when announcers claimed to “put everything into motion” as they managed their animated maps. Direct control had no intermediary. “I know it’s cloudy out there now, give me that, and later this afternoon I’ll get you the sun out” (July 26), says the announcer on NBC-7. At times these assertions took the form of pledges, as in, “that’s right no rain, I promise today” (July 29) from NBC-7. These might then become the subject of banter, partly ironic, when anchors would indicate they had noted the promises and would make sure weathercasters kept them: “We’ll hold you to that,” responds the anchor on ABC-5 to the weatherman’s claim to “hold onto the fair weather through the weekend” (July 29).

The roles weathercasters played were much less active during banter than during the entire segments ($\chi^2 = 32.601$ (3, 1), $p < .001$). When giving authoritative information, the weathercasters played up their role at times, but then used the banter with anchors to underplay their authority, repairing the rhetoric so that they again seemed more down-to-earth. The third persona role of the natural world yielded a similar result ($\chi^2 = 33.993$ (3, 1), $p < .001$). The

weather presenters choose a mild (or no) role for nature during banter, but in the overall segments they play up the element of unpredictability. For example, the announcer on NBC-7 speaks of “torrential rains” as “the biggest threat from these thunderstorms” (July 28).

We also found the announcers personifying the weather. During personification, the presenter describes weather doing the sorts of things that sentient beings do: *marching* or *migrating*, *keeping the upper hand* or *favoring*, *sneaking in* or *creeping up*, and many times *trying to* do various things (*move in* or *take over*, for example), but sometimes *struggling*, *incapable*, or *failing*. The metaphors sometimes grow from the phenomena, as in the case of a persistent band of showers that the weathercaster on ABC-5 wanted to get rid of: “this thing is moving slow, inching along, limping along more like it” (July 22). At other times the weather takes on familiar human states of being: *sitting*, *hanging around*, or *hanging out*. The ABC-5 announcer says that “the muggy air is waiting, it’s knocking on our door” (July 22), actions reported more than once and on more than one station during the week of summer Boston weather.

After coders began noting personification, we reviewed the entire sample for instances. Our close qualitative reading found that the practice predominated on NBC-7, which had several in each program. For example, one announcer describes “a tropical wave, waving at you” (July 22) one day, and another describes a battle of wills between clouds and sun: the “clouds will take their time,” although “the sun will weasel out” and “chew away at the clouds,” eventually winning (July 29). Sometimes the news team joins in, as when the NBC-7 anchor refers to “humidity gremlins” (July 23) present in the region.

The other two stations put less emphasis on such personifications, and CBS-4 relied on them the least, especially compared to NBC-7, according to our qualitative review. Although used persistently on NBC-7, personifications were most pronounced on the other two stations two days leading up to the weekend, before the convention began. Throughout the week, however the other channels did manage to insert some memorable metaphors. On CBS-4, a presenter used an extended series in one segment:

We’re stuck right in between these two features, one offshore just trying to bow back toward New England, the other one trying to approach from the west. Well, the squeeze is on, so to speak, but it looks like none of these features will affect us . . . until about Saturday when that front comes down through and sort of staggers through the area with some showers . . . (July 22)

The announcer begins with a crime-boss metaphor, with weather features *bowing* and then putting on *the squeeze*, before the character enters as though wounded into Boston. Other narratives gave the weather animal qualities, crouching over the city, but they seem concentrated in the reporting segments. Here again, the banter serves to make friendly the otherwise unsettling rhetoric of the informational narratives.

Turning to the audience, we found only some instances of weather presenters casting viewers into second persona roles. Instead, the weathercasters often left the audience out of the narrative (59.9% overall). For example, here the personality on CBS-4 describes weather without reference to audiences: “So the first Doppler forecast shows a warm next couple of days. Then it’s going to turn cool—Sunday through Tuesday on the cool side—and the showers will be Saturday” (July 22).

When the audience did play some role, it was either by enjoying leisure time (20.9) or by shielding against the weather outdoors (16.5). Examples include the residents of Rhode Island “getting nailed with heavy thunder and lightning” (July 28) on ABC-5.

Comparing banter to segments, we found that sheltering was perhaps a more common trope during banter (24.0% versus 13.6%), and the absence of any role more common during segments (61.4 versus 56.0), but the differences were not significant ($c^2 = 4.457$ (3, 1), $p = .216$).

The use of visuals did differ during banter and full segments ($c^2 = 74.860$ (4, 1), $p < .001$). The weather reports relied mostly on graphics (55.5% overall), usually computerized maps animated to show the changing weather. During the segments, animated graphics of weather changes over time were the most common illustration technique. Almost two-thirds of the segments used these animations (64.4%), and just less than another third combined graph-

ics with video (30.3). Video clips only occasionally appeared alone during the segments (3.0), and a tiny fraction included some other form of illustration (0.8) or no graphics at all (1.5).

During banter, the most common format was for the anchor and weather personalities to appear without illustration—almost half had none (48.0%). In the remainder, about two-thirds again relied on graphics of some sort (32.0), but a smaller share employed both (8.0). Video alone was much more common during banter (12.0) than during segments.

To place these results in context, visual communication theory suggests that video and graphics appeal to different sources of authority (Griffin, 2001). Video is a surrogate witness, allowing the weathercast to support its truth assertions through realistic and direct-seeming imagery. Maps, animation, and other graphics point to science and technology. Here again the banter emphasized the human dimension, from pictures of life, and the segments focused on the scientific dimension, each to build credibility in its own way.

Comparing the Affiliates

Differences in market dominance might make resources more or less available for the visual presentation of weather reports (Barnhurst & Steele, 1997), and so we explored how the production styles and competitive positions of the individual stations related to the narrative patterns weathercasting, that is, the personae employed. On the three stations, weathercasters followed a similar pattern of describing themselves usually as messengers but sometimes as controllers of the weather, and so overall the stations comparison yielded no significant differences ($c^2 = 1.986$ (4, 1), $p = .738$). However, the stations differed markedly for the personae for nature ($c^2 = 26.711$ (6, 1), $p < .001$) and audiences ($c^2 = 25.483$ (6, 1), $p < .001$). Results for these variables are only tentative, but in general CBS-4, which trails in the market, described the mildest natural world and the least protective public. NBC-7, the market upstart, did just the opposite. The established market leader, ABC-5, came in between the others. Ratings success did not align simply with patterns of sensationalism, especially because all three stations received good marks in the national quality study.

Graphical devices depend less on particular stories a journalist or announcer chooses to tell and more on the standard patterns and customs of coverage within the media organization (Barnhurst & Steele, 1997). The three news organizations showed some tentative differences in their graphics for presenting weather ($c^2 = 34.430$ (8, 1), $p < .001$).

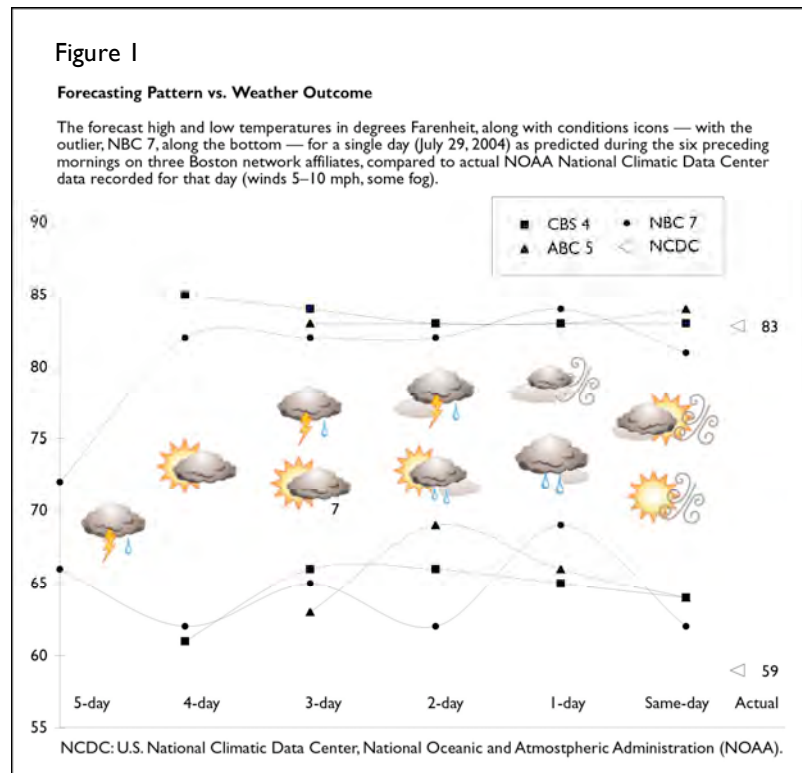
The market challenger, NBC-7, emphasized graphics (48.6%), most often in combination with video (53.2), and ratings-loser CBS-4 more often did without the video enhancements (10.6), relying almost entirely on graphics alone (83.0). ABC-5 fell somewhere in the middle in these measures, usually employing graphics alone (63.2) or in a combination with video (26.3), but also using video alone (10.5) unlike the other stations (both 0.0).

The three stations used visuals in contrasting patterns, but the differences may be a matter of distinctive styles or branding of content (Barnhurst & Steele, 1997). What unifies them is a preponderance of graphics, with video as a supplement. Market forces may have influenced their selection of emphatic, reserved, or in-between style.

These styles also turned up in the general run of weathercasts, comparing the length of segments to banter. Given its history, NBC-7 ran somewhat shorter segments ($M = 52.02$ seconds) and longer banter (14.00). ABC-5 ran the longest segments (69.66) and shortest banter (12.39), and CBS-4 ran between the other two (62.87, segments; 13.5, banter). These small differences are sensible, and anecdotal accounts describe the three stations becoming more alike in their pacing after Channel 7 went tabloid in the 1970s.

Public criticism of TV weather concentrates on accuracy and scolds weathercasters for exaggeration. To begin exploring those aspects, we analyzed the actual forecasting. The measures for the same-day forecast correlated somewhat across the entire pooled data. The predicted highs correlated inversely with day ($r(16) = -.487$, $p < 0.05$), reflecting the weather trend of the period, and the correlation between highs and lows was positive ($r(16) = .675$, $p < 0.01$). These relationships are only somewhat significant because of the small sample size and the variability of individual forecasts on the three stations.

The predictions for the last day of the study allowed us to explore, as a single instance, the accuracy of forecasting and the patterns within daily installments in the narrative of each station. We also compared the forecasts that U.S. government agencies recorded that day (Figure 1).



Weather predictions six days out can be imprecise, but the forecast data should become more accurate as the day in question gets closer. Except on the first sample day, the forecast highs ranged fairly narrowly within 5 degrees, but the lows varied much more widely over the period, and the variability appears to have increased rather than narrowed. Differences between the stations emerged. NBC-7, with the emphatic style, changed its forecast for the day more than either of the other stations, and, after the first day

of the sample, the modulations became more exaggerated. The station also differed most in the conditions it expected on that final day, ranging from cloudy with thunderstorms to sunny with winds and including combinations such as sun, fog, and rain. Its same-day forecast missed the fog that the weather services recorded. CBS-4, with a more-reserved style, issued forecasts only four days out and gradually moved closer to, and then accurately predicted, the high for the last day. Its low prediction followed a similar gradual pattern, although like the other stations it landed above the mark. ABC-5 started predicting three days out and fell between these extremes, with more variability than CBS-4, but reducing as the day drew nearer (unlike NBC-7).

The accuracy or exaggeration present in this single week reiterates observations for the three stations across the other results. NBC-7 follows an emphatic style, CBS-4 follows a reserved style, and market leading ABC-5 is somewhere between the two. Market success eludes both the most and least accurate stations.

Commenting Critically

From a critical perspective, morning weather forecasts on U.S. local television are a ritual of public speech, in which the announcer and other on-air personalities use narrative along with chitchat and visuals to negotiate a network of relationships. Rhetorically, the complex relations occur among three personae: the news professionals, the public, and the natural world. Weather news employs a structure similar to other scientific discourse, in which the scientist speaks as a messenger of Nature, but the audience is invisible. Critical scholars would consider this role for the audience inherently alienating for viewers, however necessary to make weather reports credible. To counterbalance the harsh reality of the main weather segments, the newscasts intersperse segments of banter that employ a rhetoric more centered on relationships. Doing so may repair the rhetorical ties among first, second, and third personae, so that less alienated viewers will return another day.

These relations exist within the constraints of the market, where the second persona viewers (of all sorts) make decisions, rating agencies measure them, advertisers buy them (as it were), and journalists scramble to attract and hold them. Despite occupying a cen-

tral position of power in this network, the consumer-citizen is a marginal part of the narrative that emerges from the television weathercasts. Usually in the weather segments and banter we studied, the audience had no role to play at all. Where the public did make an appearance in the narratives, the roles of active citizen, worker, or even consumer did not come to the fore. Instead the public was pictured either enjoying or resisting the weather.

Nature in these morning weather reports appears rhetorically as a third-persona aspect of public life, a projection of knowledge about the threatening world emerging from a backstage zone of science. Meteorology and cartography are the black box, the models taking the measure of the physical world, which weathercasting makes known through the technology of graphics and video display. Graphics in the weathercasts we studied concentrated in the main segments, where they lent precision and authority to the reports. The public version of science we found in this daily weather coverage took a form akin to textbooks, foregrounding color and graphics that supposedly entertain the distracted student into learning something fundamentally mysterious and difficult. Both forms confirm the ideological position of science as the repository of truth and of the media (book authors or television personalities) as servants who deliver authoritative truth to a public that is absent—or perhaps just inattentive—and so reasonably left out of the narrative. The weather itself appeared personified, like a headstrong, unruly teenager or a defiant and somewhat dangerous animal needing training.

The first persona or central character in the public ritual of weather is the on-air talent, who balances two imagined and opposing roles, as entertainer and as trainer (Anderson, 1970). We found evidence of these two roles interwoven in the structure of weather reports. During the main body of the segments, weathercasters combined authoritative and complex visual information with narrative elements that tilted toward drama, featuring themselves at times as controllers and the weather as capricious or sometimes threatening. These elements changed places within the banter that occurred between weathercasters and other news personalities. Here the journalists remained mere messengers, rarely implying any control, and the changeable weather sometimes either vanished from

the scene or became benign. Instead of offering training, the newscasters turned primarily to showmanship. Entertainment held the foreground, with emphasis on emotion during information segments and on small talk before and afterward. Setting aside the hard work of science and technology, weathercasters used banter to reestablish folksy or down-to-earth credentials, sometimes wandering to other topics in the manner of ordinary conversation. These rhetorical moves tended to disguise, but surreptitiously underscore, the technical wizardry and knowledge required to produce the scientific content. As a result, both of their imagined roles, as trainer and entertainer, establish the weathercasters' authority.

The market provides a tacit backdrop for the ritual of weather reporting. Market forces appear to be of two kinds, professional and commercial. Newscasters belong to an occupational group in which members move with relative ease from one station and city to another. Their mobility reinforces the system of trade organizations, industry consultants, and resource materials, such as the journalism manuals cited here, that push weather reporting toward uniform patterns. In the Boston market, two of the three VHF stations deliver early morning weather information in identical numbers of segments, and all three vary only slightly in the length of stories, use of banter, emphasis on weather maps (often with animation), and other structures of weathercasting. The announcers on all three stations also cast themselves in similar roles as they invent and deliver their weather narratives. Weather personalities are a subset of the larger occupation, television journalism, a grouping that pulls its members (at least officially) toward serious reporting. Finally, watchdog organizations track the quality of news programs and pronounce some practices acceptable and some reprehensible, and in the Boston instance published critiques in the *Columbia Journalism Review* which arguably helped move the three stations closer to professional expectations.

The commercial market pushes in the opposite direction, away from uniformity and toward brand differentiation. The setting for the television weather reporting we studied was not distinct from the economics of the local stations. Regional economic conditions impinge on advertising potential, and the Boston stations, like other local U.S. broadcasters, rely heavily on news to generate profit.

Each news department has three shows, but the early morning program is, as usual, third in importance, after the 6 and 11 o'clock programs. Because morning weather is a minor element, its relative insignificance may make it a more likely venue to observe the distinctive forms and styles that the stations employ to establish a brand identity.

The three Boston weathercasts had clear stylistic differences. The emphatic style of NBC-7 recurred across most of our observations. It had shorter weather segments and longer banter. It projected the most dangerous natural world and the most defensive public. Its announcers employed personification. Its use of animated graphics with video accompanied forecasts that changed widely from day to day and accomplished the least accuracy. The rhetoric of its weather reports contrasted point by point with the reserved CBS-4, which presented itself as a messenger and turned out to be a reliable one. It has the lowest ratings overall, trailing specifically in its news programs, and so can generate the least advertising revenue. Its financial condition may limit the use of combination graphics and bolster other aspects of a reserved visual and editorial style. Stylistic difference did not, however, map perfectly onto the local market. Newscasts rely on (and influence) the economics of programs that lead into and follow them. ABC-5 has had the strongest network ratings, with popular shows to bookend its news programming and the strongest prime-time lineup. Its style is moderate compared to its two competitors, but other market factors make its moderation possible. In sum, the Boston market confronts viewers with a dominant and middling choice, as against a dull but respectable laggard or a shrill and aggressive upstart. The market may encourage these distinctions.

Starting a Research Conversation

Beyond the critique of these three cases, this study can make two firm generalizations. One is that banter and the main segments in the study sample are distinct in structure, but our results are only tentative about the different tone, roles, and visuals the weathercasts employ in each. Their rhetorical structure, not previously examined in discourse or media research, deserves further study. Another firm conclusion is that our sample cases, the three Boston sta-

tions, did not give identical forecasts, not only despite the influence of industry consultants who push newscasts toward uniformity, but also despite the availability of standard, nationally generated weather data. Here again, however, our study used ad hoc measures. Additional research should check media weather accuracy with established meteorological measures across different seasons.

Our cases, selected purposively for close comparability, high market standing, professional quality, and situational constraint, take an initial, parsimonious gauge of industry practice. The results suggest the need for a national study, one that not only spans geographical regions but also compares the content of TV weather to other TV news topics. Does banter operate differently for weather than for other news? Our informal observations beyond this study suggest not, but weathercasters could be acting with less restraint than, say, anchors. Other studies of the new long journalism have shown that prediction, a dominant feature of weathercasting, has grown throughout the U.S. news media. In other words, the weathercaster may exist as a freer but otherwise not atypical member of the news program cast. Banter has been a ubiquitous feature of TV news for a quarter century, but previous research has not examined the phenomenon rhetorically.

Despite its limitations, this study highlights an under-examined area of broadcasting research. It tentatively suggests the rhetorical complexity on the part of the (first persona) message sender, who projects an authoritative and entertaining self, who dramatizes a picture of (third persona) Nature infused with authority from science and technology, and who employs elements of conversation and persuasion for the public, an imagined but largely absent second persona. Long-range studies of how newswork transformed in the twentieth century track the growing authority of the new long journalism of explanation. The weathercaster provides another example of that transformation from lowly clown to high-status knowledge worker.

Our study crosses over the traditional divide between media and speech in communication research, but rhetorical theories seem to have a fertile ground in audiovisual media, where speech and even conversation abound. We also attempt to accomplish critical work using basic empirical methods, taking quantitative measurements

alongside qualitative observations. Although some of the measures add only tentative support to what otherwise is a case study, our analysis takes an initial step toward an important but ignored topic and points to a path toward further research.

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