

The Language of Laughter: A Quantitative/Qualitative Fusion Examining Television Narrative and Humor

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This study utilizes multiple methods to analyze the effects of a laugh track on audience response to four episodes of the classic sitcom, "The Andy Griffith Show." An experimental design and a narratological approach are used in concert. One of the four episodes stood out quantitatively in terms of perceived humor and overall enjoyment, and was the only episode for which the laugh track had a negative impact. Narratological richness might explain the anomalous episode, as it was found to possess a more complex story structure, higher levels of satire, and other distinctive elements found to have high audience appeal.

This study examines the reception of humorous media, specifically television situation comedies, and how a variety of co-factors contribute to the comic enjoyment of and narrative engagement with this programming. Despite the economic and cultural importance of the American situation comedy, relatively minimal analytical attention was paid to its narrative construction or its patterns of reception. Past efforts utilized either a quantitative, or more frequently, a critical/qualitative methodology, but rarely have these approaches been used in concert. This study employs a useful convergence of these epistemologies.

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Using the classic American situation comedy, *The Andy Griffith Show*, as the source of experimental stimuli in a study of the effects of a laugh track on the reception and comic appreciation of television humor, this study provides a multifaceted analysis of a complex phenomenon. After first examining findings from an empirical, social scientific approach, outcomes that might best be analyzed from critical perspectives are identified, resulting in a fusion of previously disparate methods. Normally separated by an epistemological divide, both quantitative and qualitative/narratological methods are brought to bear here in order to arrive at a more complete understanding of spectator responses.

Ultimately, this piece embodies an integration of methodologies that is not limited by artificial intra-disciplinary boundaries that exist more for the reification of fixed models of inquiry and are less concerned with ecological validity, or the real dimensions of communication issues.

Humor Responses and the Laughter of Others

Context is critical for the reception of humorous stimuli (Martin, 2007). The presence of others, and their mirth behaviors, has long been acknowledged in the social and behavioral science literature as an important contextual factor (Malpass & Fitzpatrick, 1959).

The question of the precise impact of the laughter of others is a topic of debate. Some research found the impact of others' mirth behavior was limited to a social contagion enhancement of smiling and laughing, an impact which does *not* extend to perceptual or affective responses to the humorous stimulus (Chapman, 1973; Devereux & Ginsburg, 2001; Leventhal & Cupchik, 1976; Neuendorf with Fennell, 1988; Platow et al., 2005). This research supports the theoretic perspective of laughter as contagious, while not enhancing perceived funniness. Other research, however, supports a social facilitation/situational cueing approach to mirth, finding effects on both laugh behavior and evaluative judgments (i.e., perceived funniness, enjoyment). The theoretic mechanism operating is one in which the laughter of others serves a cueing function, alerting the audience member to the humorous potential of the stimulus, thus increasing the likelihood of a humor response. These studies found both behavioral and evaluative outcomes stemming from live confederate laughers (e.g., Chapman & Chapman, 1974; Devereux & Ginsburg, 2001) and from recorded laughter (e.g., Fuller & Sheehy-Skeffington, 1974; Leventhal & Mace, 1970; Martin & Gray, 1996; Smyth & Fuller, 1972).

Recorded laughter was first popularized in the early twentieth-century genre of phonographic laughing songs and laughing stories (Smith, 2005). Later, live audiences became the convention for network radio broadcasts, with recorded laughter supplementing radio audience reactions during the 1940s. Television continued the practice of live audiences, and moved to the insertion of wholly recorded laughter (i.e., the laugh track) as filmed episodes became popular in the 1950s and 1960s (Neuendorf with Fennell, 1988). The principal purveyor of television laugh tracks

in the 1950s was Charlie Douglass, a technical director in early television who reportedly sampled live laughs from a Marcel Marceau concert for his invention, the “Laff Box” (Judge, 2003). The company Douglass founded, Northridge Electronics, still manufactures laugh track equipment.

Surprisingly, nearly no research has examined the effects of a laugh track on television audience response in an ecologically valid context (Neuendorf with Fennell, 1988). The typical study of recorded laughter involves a decidedly artificial pairing of humorous stimuli with recorded laughter. For example, subjects may read jokes while an audio loop of laughter plays in the experimental room (Graziano & Bryant, 1998), or in a headset (Olson, 1992). Or, laughter may be included in an audio recording of jokes (Chapman, 1973; Fuller & Sheehy-Skeffington, 1974; Lawson, Downing, & Cetola, 1998; Smyth & Fuller, 1972). The quality of the recorded laughter is suspect in many of these studies; for example, Platow et al. utilized the laughter of the experimenters themselves, “dubbed twice to increase the apparent size of the audience” (2005, p. 545). The current study provides a more externally valid manipulation via the use of professionally produced laugh tracks in concert with episodes of a classic television situation comedy, *The Andy Griffith Show* (1960–1968), one of the most popular examples of the 1960s filmed series with a full laugh track (Beck & Clark, 2000a, 2000b; Kelly, 1994; Vaughan, 2004).

Hypothesis and Research Questions

Based on past work on humor and social facilitation, the authors hypothesized that:

H₁: Subjects viewing a television episode accompanied by a laugh track will find the content more humorous than will those who view the episode without the laugh track. They will also find the presentation more enjoyable.

Based on the assumptions of narratology and empirical formalism, the following research question asks:

RQ₁: Does the specific episode of a series make a difference with regard to audience responses, and does the episode interact with the presence or absence of a laugh track in the production of audience responses? In particular, do viewers perceive important differences in humor types across episodes of the same situation comedy?

Following the traditions of narratology and empirical formalism:

RQ₂: How might critical theories help explain any differences between episodes?

Quantitative Method

The Experiment

A posttest-only experimental design was employed, with random assignment to eight conditions: Laugh track or no laugh track for each of four episodes of *The Andy Griffith Show*. Viewing took place in an experimental lab in the School of Communication at Cleveland State University.

Subjects

Undergraduate students ($n = 114$) at a large Midwestern urban University were offered course or extra credit for participation, and were solicited within their classes. The experimental protocol was approved by the University's Institutional Review Board. Viewing occurred in small groups of two to five subjects, with subjects watching a 60-inch rear-projection television, and seated in individual straight-back chairs with cushioned seats. Subjects were situated between four and seven feet from the screen.

Conditions

The eight experimental conditions entailed the viewing of one of the following episodes from *The Andy Griffith Show*: *Opie the Birdman* (Ep. 4.1), *Black Day for Mayberry* (Ep. 4.7), *Opie's Ill-Gotten Gains* (Ep. 4.8), or *Up in Barney's Room* (Ep. 4.10), each with or without laugh track. The without-laugh-track episodes were discovered on an erroneously released version of the 1963–64 fourth season boxed DVD set released by Paramount Home Video in 2005; the with-laugh-track episodes were located on a corrected replacement version of the same set. The with- and without-laugh-track versions differed only with regard to the laugh track—dialogue, sound effects, and music were identical.

Measures

The posttest questionnaire comprised of measures of reactions to the content just viewed. Relevant to this analysis, this instrument included:

Overall Perceived Funniness. A single item asked how funny the episode was on a 0–10 response scale where 0 = *not at all funny*, and 10 = *extremely funny*.

Total Perceived Funniness (summed over 20 specific humor points). Subjects were queried about 20 different humor points in the episode they viewed, using the same 0–10 response scale.

Overall Reported Enjoyment. A single item tapped subjects' enjoyment of their episode, with a 0–10 scale where 0 = *not at all enjoyable*, and 10 = *extremely enjoyable*.

Types of Humor Evident in the Episode. Four broad, independent mechanisms by which a mirth response may occur have been identified in various scholarly literatures to date (Neuendorf & Skalski, 2000, 2009). They are: Superiority/disparagement (e.g., Freud, 1960; Zillmann & Bryant, 1980); Incongruity (e.g., Koestler, 1964; Shultz & Horibe, 1974); Arousal (e.g., Berlyne, 1972; Spencer, 1860); and Social currency (e.g., Chapman, 1983; Fine, 1983; Fry, 1963). Based on these four mechanisms, 16 perceived humor measures were taken for each of six key humor points in each of the episodes. Respondents were asked in a checklist format (i.e., non-mutually exclusive list) whether at each point there was an instance of putdown humor, wordplay humor, slapstick, satire, sarcasm, joking around to fit in, joking socially, self-deprecation, incongruity, people doing stupid things, dark humor, sick humor, a sight gag, naughty humor, and/or parody. Stimulus presentation characteristics—for each episode, five measures of selected presentation characteristics were applied to each of the six key humor points. Subjects were asked to respond in a 0–10 Likert-type response format (0 = *strongly disagree*, 10 = *strongly agree*) the degree to which they felt each humor point was presented in a realistic fashion, was intentional, represented a rare event, was surprising, and was delivered in a dry fashion.

Identification with characters—for each episode, five measures of how subjects identified with the sitcom characters were collected for each of the six key humor points. Using the same 0–10 Likert-type response format, subjects were asked to indicate whether they felt sorry for the character featured at that humor point, related well to the character, admired the character, felt superior to the character, and felt the character was like a friend.

Demographic indicators were also measured—income (indexed on a 6-category response scale), race (measured in an open-ended item and coded as White or Nonwhite), gender, and age (in years).

A number of scales were constructed. For the 20 humor points, a total perceived funniness scale was constructed via straight addition. For types of humor evident in the episode, perceived stimulus presentation characteristics, and identification with characters, scores were summed across the six humor points.

Quantitative Findings

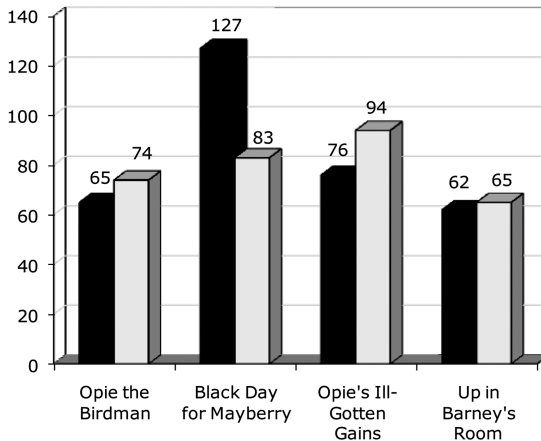
The 114 subjects were 53% female, 29% Nonwhite, 92% U.S.-born, with ages ranging from 18 to 54, and a mean age of 25.6 years. With regard to income, 44% reported a family household income of under \$25,000 annually, 19% an income of between \$25,000 and \$49,999, and 37% an income of \$50,000 or more. A check

of comparability across the eight conditions revealed no evidence for concern over demographic biases in random assignment.

To address H₁ and RQ₁, three dependent variables were employed—overall episode perceived funniness, total funniness for 20 comic points, and overall reported enjoyment of the episode. Due to high intercorrelations among the dependent variables, multivariate analysis of variance (MANOVA) was conducted on the two-factor model of laugh track/no laugh track and episode. The main effect of laugh track was non-significant ($p = .696$ for Pillai's trace, Wilks' lambda, and Hotelling's trace), the main effect for episode was significant ($p = .01$ for each of the three statistics), and the interaction term was also significant ($p = .03$). The follow-up ANOVAs are shown in Table 1. H₁ predicted that those in the laugh track condition would find the episode funnier and more enjoyable; this was not supported. However, in beginning to address RQ₁, a significant main effect for episode was seen for all three dependent indicators. And, for the total perceived funniness scale, there was a significant interaction between laugh track and episode, as demonstrated in Figure 1.

Other findings also address RQ₁, with an indication that the particular episode often makes a difference in audience responses. Table 2 summarizes the pattern of significant and non-significant findings for the effects of the laugh track and episode factors, including both main effects and the two-way interaction, on a wide variety of dependent variables.

Figure 1
Significant Interaction of Laugh Track Factor and Episode on Total Perceived Funniness Scores (Across 20 Comic Points)



Main effect for laugh track: ns
 Main effect for episode: $F(3,106)=5.32, p=.002$
 Interaction effect: $F(3,106)=3.06, p=.031$

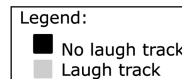


Table 1
Two-way ANOVAs for Main Dependent Measures

Dependent Variable	Means	<i>F</i>	Sig.
Overall Perceived Funniness			
Main effect—Laugh track		$F(1, 106) = 0.00$	$p = .99$
Main effect—Episode		$F(3, 106) = 3.52$	$p = .02$
<i>Opie the Birdman</i>	3.61		
<i>Black Day for Mayberry</i>	5.63		
<i>Opie's Ill-Gotten Gains</i>	4.68		
<i>Up in Barney's Room</i>	3.69		
Interaction of laugh track & episode		$F(3, 106) = 1.82$	$p = .15$
Total Funniness (Sum of 20 Items)			
Main effect—Laugh track		$F(1, 106) = 0.16$	$p = .69$
Main effect—Episode		$F(3, 106) = 5.32$	$p = .002$
<i>Opie the Birdman</i>	69.66		
<i>Black Day for Mayberry</i>	104.89		
<i>Opie's Ill-Gotten Gains</i>	84.62		
<i>Up in Barney's Room</i>	63.94		
Interaction of laugh track & episode		$F(3, 106) = 3.06$	$p = .03$
[See Figure 2]			
Overall Enjoyment			
Main effect—Laugh track		$F(1, 106) = 0.25$	$p = .62$
Main effect—Episode		$F(3, 106) = 3.44$	$p = .02$
<i>Opie the Birdman</i>	5.11		
<i>Black Day for Mayberry</i>	6.36		
<i>Opie's Ill-Gotten Gains</i>	5.70		
<i>Up in Barney's Room</i>	4.28		
Interaction of laugh track & episode		$F(3, 106) = 0.83$	$p = .48$

^a.05 < p < .10. * p < .05. ** p < .01.

The laugh track manipulation essentially had a null impact on perceived funniness, and the various perceived humor, context, and character identification variables. Again addressing RQ₁, the impact of episode overwhelmingly achieved significance across a wide variety of dependent measures. The interaction of the laugh track factor and the episode was significant in just a few instances.

Table 2
Significances for Main Effects and Interaction on Dependent Measures

Dependent Variable	Laugh Track Main Effect	Episode Main Effect	Interaction of Laugh Track and Episode
Overall perceived funniness	<i>ns</i>	*	<i>ns</i>
Total funniness (sum of 20 items)	<i>ns</i>	**	*
Overall enjoyment	<i>ns</i>	*	<i>ns</i>
Types of Humor (Each a Sum of 6 Items)			
Putdown	<i>ns</i>	*	<i>ns</i>
Wordplay	<i>ns</i>	a	<i>ns</i>
Slapstick	<i>ns</i>	*	<i>ns</i>
Satire	<i>ns</i>	*	<i>ns</i>
Sarcasm	<i>ns</i>	<i>ns</i>	<i>ns</i>
Joking to fit in	<i>ns</i>	<i>ns</i>	<i>ns</i>
Joking socially	<i>ns</i>	a	<i>ns</i>
Self-deprecation	<i>ns</i>	a	<i>ns</i>
Incongruity	<i>ns</i>	<i>ns</i>	<i>ns</i>
Absurdity	<i>ns</i>	<i>ns</i>	<i>ns</i>
Stupid things	<i>ns</i>	<i>ns</i>	<i>ns</i>
Dark humor	<i>ns</i>	**	*
Sick humor	<i>ns</i>	**	<i>ns</i>
Sight gags	<i>ns</i>	<i>ns</i>	<i>ns</i>
Naughty humor	<i>ns</i>	*	<i>ns</i>
Parody	<i>ns</i>	<i>ns</i>	<i>ns</i>
Stimulus Presentation Characteristics			
Realistic	<i>ns</i>	<i>ns</i>	<i>ns</i>
Intentional	*	*	<i>ns</i>
Rare event	<i>ns</i>	<i>ns</i>	<i>ns</i>
Surprising	<i>ns</i>	<i>ns</i>	<i>ns</i>
Dry delivery	<i>ns</i>	*	a
Identification with Characters			
Felt sorry for character	<i>ns</i>	<i>ns</i>	<i>ns</i>
Related well to character	<i>ns</i>	*	*
Admired the character	<i>ns</i>	*	<i>ns</i>
Felt superior to character	<i>ns</i>	*	<i>ns</i>
Felt character was like a friend	<i>ns</i>	*	<i>ns</i>

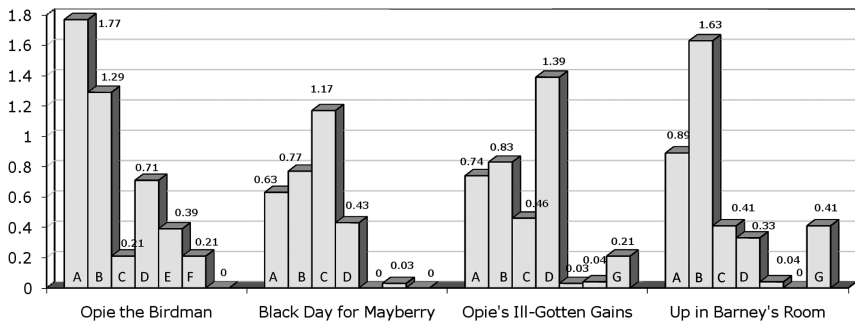
^a.05 < *p* < .10. **p* < .05. ***p* < .01.

Figure 2 further illustrates the seven types of humor perceived at significantly different levels by participants across the four episodes. In *Opie the Birdman*, the highest level of “put-down humor” was perceived, while “sick humor” and “dark humor” were reported at very low levels, but still much higher than the other three episodes. For instance, no “dark humor” whatsoever was perceived in *Black Day for Mayberry*. “Slapstick” was at its highest in *Up in Barney’s Room*, with *Opie the Birdman* also rating fairly high in comparison with the two remaining episodes. “Satire” was reported as being presented to a far greater extent in *Black Day for Mayberry* versus the other three episodes, while *Opie’s Ill-Gotten Gain* was found to contain the largest amount of “joking to fit it.” Both *Opie the Birdman* and *Black Day for Mayberry* were found to offer no “naughty humor.” However, *Up in Barney’s Room* and *Opie’s Ill-Gotten Gain* were reported as having low levels of this humor type.

In Figure 3, the two humor presentation types, “intentional humor” and “dry delivery,” were found at significantly different levels across the four episodes. “Intentional humor” was reported at high, and very similar, levels in *Opie the Birdman*, *Black Day for Mayberry*, and *Opie’s Ill-Gotten Gain*, but at a much lower level in *Up in Barney’s Room*. “Dry delivery” was found most prominently in *Opie the Birdman*.

Figure 3 also shows the statistically significant differences in reported character identification. Participants most strongly related to the characters in *Opie’s Ill-Gotten Gain* and related to characters the least in *Black Day for Mayberry*. Admiration for characters was reported at its lowest point in the episodes *Up in Barney’s Room* and *Black Day for Mayberry*, while it was rated considerably higher in the other

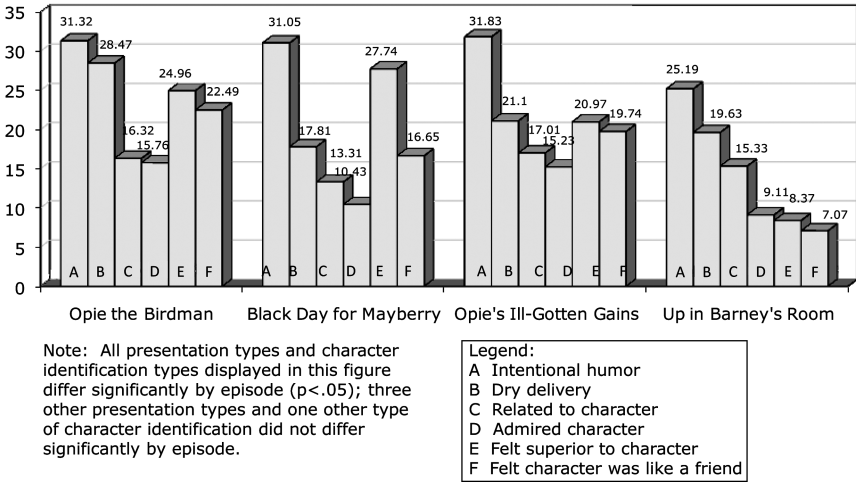
Figure 2
Perceived Humor Types by Episode



Note: All seven humor types shown in this figure differ significantly by episode ($p < .05$); nine other humor types did not differ significantly by episode.

- Legend:
- A Put-down humor
 - B Slapstick
 - C Satire
 - D Joking to fit in
 - E Dark humor
 - F Sick humor
 - G Naughty humor

Figure 3
Humor Stimulus Presentation Characteristics
and Character Identification by Episode



two episodes. Participants felt superior to the characters at high levels in all of the episodes except *Up in Barney's Room*. *Up in Barney's Room* also ranked noticeably lowest in terms of participants feeling as if the characters were like friends to them.

In sum, the quantitative findings disclose a lack of direct effects of a laugh track on a range of audience responses, failing to consistently support either a social contagion or a social facilitation model of the impact of the laughter of others. The episode is decidedly a significant factor in many audience outcomes, either as a direct (main effect) influence, or in interaction with the laugh track factor. All told, the quantitative findings confirm a view of distinctiveness of episodes, with *Black Day for Mayberry* particularly intriguing in its significant reversal of the expected laugh track impact.

Qualitative Method

When faced with the problem of the anomalous episode, the limits of the quantitative data set's ability to explain why *Black Day for Mayberry* was not only better liked by the sample group than the other three episodes, but also why the laugh track had an opposite effect on both the audience's enjoyment and perception of humor in this episode, were discovered. The distinctive responses to each episode reinforced the idea that television programming cannot be adequately studied at the level of the series (as has traditionally been the case in both critical/cultural

and social scientific approaches), and instead must be examined at the level of the specific episode. Beyond this basic conclusion though, it became evident that the story itself was potentially responsible for the disparate audience reactions noted in the study. In order to undertake a comparative analysis of the four stories in the sample, the critical methods of narratology, the structural study of storytelling that grew out of the formalist, semiotic approaches to language that emerged in the early decades of the twentieth century, were utilized. Because of the novel nature of this fusion of methodologies, a triangulated approach was employed that would engage the three fundamental perspectives on narratological analysis—the structural, the semiotic, and the semantic—in order to produce more complete, multi-dimensional, and dependable results. While a single narratological model might illuminate one aspect of the story under study, triangulation served as a means of conceptual reliability testing, of broadening the perspective of the analysis, and of ensuring that the findings were not based on only one dimension of this complex phenomenon but rather on a more holistic understanding of the multiple facets of narrative difference.

Narratology takes many forms, but since Propp's breakthrough structural work in *The Morphology of the Folktale* (1928/1990), the focus has been on producing the most empirical and complete analysis of storytelling possible given the subjective dimensions of the form. In a foreword to the study, which focuses specifically on the Russian fairytale (or *skaz*) but is equally applicable to understanding all narrative structure, Propp writes "it is possible to make an examination of the forms of the tale which will be as exact as the morphology of organic formations" (p. xxv). Central to Propp's model is the notion of *character function* which "is understood as an act of character, defined from the point of view of its significance for the course of action." Propp further explains that "functions of characters serve as stable, constant elements in a tale" while maintaining that "the number of functions known to the fairy tale is limited" (p. 21).

In addition to these character functions, Propp identifies another structural component of stories which are those narrative developments such as an escape from pursuit or a material gain Propp refers to as *moves*, stating that the "tale may have several moves, and that when analyzing a text, one must first determine the number of moves of which it consists" (p. 92). In the model, the fundamental structure of every tale can be represented by a string of codes in which, for example, "A" corresponds to the concept of villainy with further delineations offered by "A¹" representing the villain's kidnapping of a person, or "A³" indicating the villain's ruining of crops. In terms of moves, 'a' stands for a lack or insufficiency, while ↑ is the departure or dispatch of the hero from home. With this lexicon of symbols Propp is able to represent the structure of the folktale as an equation of functions and moves that can allow for empirical analysis and comparison. Because of the generally formulaic nature of the situation comedy, Propp's morphology is extremely useful in examining the relations between variations of closely connected narratives, and so is well suited to the task of differentiating one episode of a television series from another.

Another valuable approach to narratology can be found in the semiotic method of Barthes, whose analysis in *S/Z* (1974) relies not on the structure of character functions and moves but rather on the identification of a series of intersecting codes that work together to tell the story. In an analysis of Balzac's story *Sarrasine*, Barthes identifies five such codes. The "hermeneutic" code (represented as HER.) which refers to "all the units whose function it is to articulate in various ways a question, its response, and the variety of chance events that can either formulate the question or delay its response, or even, constitute an enigma and lead to its solution" (p. 17). The "semic" code (or SEM.) functions as a signifier of an object, a state of being, a person, an idea, acting as "a shifting element that can combine with other similar elements to create characters, ambiances, shapes, and symbols . . . it is the signifier par excellence because of its connotation" (p. 17). The "symbolic" code (or SYM.) indicates substitutions, variations, antitheses, and suggestions, while the "proairetic" codes represent the actions within the text and are represented in Barthes' formulation as ACT. Barthes identifies one final code, "the numerous codes of shared knowledge or wisdom to which the text continually refers; we shall call them in a very general way *cultural codes* (even though, of course, all codes are cultural), or rather, since they afford the discourse a basis in scientific and moral authority, we shall call them reference codes (REF.)" (p. 18).

According to Barthes, "the five codes create a kind of network, a *topos* through which the entire text passes (or rather, in passing, becomes a text)," (p. 20). This model differs from Propp's in that the purpose is "not to manifest a structure but to produce a structuration," (p. 20) or to examine the text as a process of coding and decoding, an informational system, that implicates both the author and the reader in the construction of meaning. For the four individual programs that make up the sample, Barthes' semiotic model allowed an examination of the intersection and overlap of codes to demonstrate the dramatically different construction of each episode, and to undertake an empirical comparison of the specific qualities that contribute to the uniqueness of each episode and explain the divergent quantitative findings.

The third approach to narratology that completes the triangulation comes from the semantic focus of Greimas (1987) who states that, "all grammars include, more or less explicitly, two components, a morphology and a syntax. The nature of the morphology is that of a taxonomy whose terms are interdefined, the syntax consists in a set of operational rules or else in a means of manipulating the terms of the morphology" (p. 309). While this method might be seen as a fusion of Propp's structuralism and Barthes' semiotics, the emphasis turns more towards a linguistic construction that posits storytelling as a kind of language that operates from a set of more or less fixed principles that allow for the diagramming of narrative in much the same way that sentences were regularly analyzed in an earlier era.

Greimas connects the concepts of syntactic operation with syntactic practice, pointing out that "logical operation is conceived as an autonomous metalinguistic process, allowing the subject of the operation to be bracketed (or allowing the use of any operator whatsoever), a practice, whether practical or mythical, implies an activity—a *human subject* (or at least an anthropomorphized one: 'the pencil writes')"

(pp. 312–313). These ideas come together in Greimas' conception of the "Narrative Utterance" represented by the equation $NU = F(A)$ "in which the practice, as a process of actualization, is labeled *function* (F) and in which the subject of the practice, as a potentiality of the process, is designated *actant* (A)" (p. 313). This simple equation allows for a typology of narrative utterances to be constructed which might take the form of $NU_1 = F$: confrontation ($S \leftrightarrow S_2$), $NU_2 = F$: domination ($S_1 \leftrightarrow S_2$), or $NU_3 = F$: attribution ($S_1 \leftarrow O$), indicating respectively relations of contradiction, negation, and assertion. Though like Propp's paradigm, Greimas' can be extraordinarily complex, these basic operations serve the purposes of narratological analysis by enabling the construction of a comparative grammar predicated on the notion of *The Andy Griffith Show* as, if not a language, then certainly a representational system, the relatively fixed parameters of which allow for the empirical modeling of narrative difference. Together the structural model of Propp, the semiotic approach of Barthes, and the semantics of Greimas can be employed to explain the episodic differences produced by this study's statistical analyses.

Qualitative Findings

In considering *The Andy Griffith Show* and attempting to answer the question of why one episode, *Black Day for Mayberry*, stood out significantly in terms of perceived humor and overall enjoyment, and further, why the consistent relationship seen in the other episodes between the laugh track and the sense of the episode's funniness was inverted in this case, an analysis of the narrative differences between the episodes was illuminating. By using the models outlined by Propp, Barthes, and Greimas described above, the study demonstrated how the distinctive narratological qualities of *Black Day for Mayberry* might account for these differences in response.

Analyzed in Propp's structural terms of character function and narrative moves, *Black Day for Mayberry* stands out very clearly from the other three episodes in the sample. While Andy is rarely the focal character in early episodes of the show, his function as authority figure is so constant as to be the defining structural feature of the series. However, even within this function there are degrees of variation. In all the sample episodes, Andy is a disciplinarian and also the dispenser of wisdom and rewards, which might be coded according to Propp's model as $A^1 = \text{Andy as Law}$, $A^2 = \text{Andy as giver of wisdom}$, and $A^3 = \text{Andy as giver of rewards}$. *Opie's Ill-Gotten Gains* and *Opie the Birdman* focus character function A^1 within the family as it is Opie who is subject to Andy's authority, while in *Up in Barney's Room*, Barney becomes the object of Andy's authority until the end when Andy and Barney arrest Mr. Fields, a con man who has stolen Mrs. Mendelbright's (Barney's landlady) life savings. In *Black Day for Mayberry*, function A^1 is intensified as Andy is initially charged with providing security for a U.S. gold shipment coming through town and then must confront the Federal Government, chasing down and intercepting an armored car that has driven away with Barney trapped inside. In this way, Andy becomes the law, not just in his family or even in the protection of one citizen, but

rather as the defender of the town and the integrity of the townspeople. His function is enhanced by the heightened tension and stakes of the conflict, the shifting of the oppositional terms from his own son to an itinerant con man to the U.S. government, and the bravery, strength, and cunning he must bring to bear in order to enforce the rule of the law.

There are a greater number of *dramatis personae* in the show (15 credited characters as compared with 5 in *Opie's Ill-Gotten Gains*, 6 in *Up in Barney's Room*, and 4 in *Opie the Birdman*), and so a higher number of character functions that intersect to create a more complex story structure. The number of narrative moves in this episode is also greater, as Barney's "investigation" into Mayberry's security, the spread of the information through the town, the town's carnival atmosphere as the gold shipment approaches, the arrival of the gold shipment, Barney's discovery that there is no gold on the truck, Barney's kidnapping by the federal officials and his subsequent rescue by Andy, produce an escalation of dramatic situation and a breadth of action that is far beyond that of the other episodes in the sample. A Proppian diagram of *Black Day for Mayberry's* structure would thus be both longer and denser than the contained scopes of *Opie's Ill-Gotten Gains* or *Opie the Birdman*, in which the action is confined to a relatively few locations with only a handful of narrative moves. This more complex narrative morphology is more like that of a feature film than an episodic television program and may relate to a decreased efficacy of the laugh track.

This quality of greater semiotic richness is similarly revealed when *Black Day for Mayberry* is subjected to a Barthesian analysis focusing on the fundamental codes as outlined in *S/Z*. The sample audience perceived a high degree of satirical humor in this episode (1.17 as compared to .25 in *Opie the Birdman*, .41 in *Up in Barney's Room*, and .66 in *Opie's Ill-Gotten Gains*). Satirical humor, unlike the other designated comic categories requires some external reference point and so implies the necessity of a more extensive cultural (or REF.) coding, and certainly the signifiers of the Federal Government, wealth, Mayberry as a place judged by outsiders as culturally and geographically insignificant, the duplicity of politics, and the peculiarities of the townspeople are all elements singularly specific to this episode. In fact of the four episodes in the study, it is the only one to feature so far-reaching a set of cultural connections, requiring the audience to contextualize the action within a broader representational world rather than the familiar confines of Mayberry.

While *Opie's Ill-Gotten Gains* adds *Opie's* teacher (Helen Crump) and his school to the series' typically central locations (Sherriff's office, Taylor house, Mayberry sidewalks) and characters (Andy, Barney, *Opie*, Aunt Bea), and *Up in Barney's Room* adds Mrs. Mendelbright and Mr. Fields as well as several spaces within Mrs. Mendelbright's house, there is simply a demonstrably higher density of semic (SEM.) coding in *Black Day for Mayberry* than in the other episodes. Leon, the young boy (Clint Howard), Gomer Pyle (Jim Nabors, who would go on to star in a show of his own), the hotel Barney spies on during his "investigation," Barney's detective disguise, the narrative (if not physical) presence of Juanita, Barney's girlfriend to whom he reveals the secret of the gold shipment, the gas station/truck stop, the

alleged gold truck—these are but a few of the narrative elements that make up the constellation of signifiers that constitute the semic code of the episode. When this extensive network of signifiers is compared with that of *Opie the Birdman*, which features the three previously mentioned central locations and four main characters, adding only the slingshot, the birds, and the cage, the complexity of the signifying schema in *Black Day for Mayberry* becomes quite clear.

A similar condition can be noted at the level of Barthes' hermeneutic codes (HER.), as the mystery of why the two government agents want to see Andy gives way to questions about the impact of Barney's inability to keep the gold truck a secret, the responses of the townspeople to this big event, the conflicts surrounding the public reception of the supposedly secret truck, the enigma of why there is no gold in the truck, and the conflict surrounding Barney's kidnapping. Not only are more questions raised by this episode than any of the others in the sample, but the nature of the questions is both broader and more dramatic than whether Opie will be able to care for the baby birds in *Opie the Birdman*, or when the secret regarding Opie's report card will finally emerge in *Opie's Ill-Gotten Gains*. In this way, *Black Day for Mayberry* gives the audience more cues to work with in order to construct a complex and engaging narrative, and so may contribute to the explanation of the audience's greater enjoyment of this episode.

Turning to the semantic model offered by Greimas and focusing the analysis on the three sample narrative utterances described in the section on Narrative Units, a clear pattern emerges through the triangulation of narratological models as to the comparative qualities of the episodes. Using the narrative grammatical equation $NU_1 = F: \text{confrontation } (S \leftrightarrow S_2)$, it becomes clear that the problem of the leaked secret of the gold shipment and Andy's conflict with the treasury agents who have kidnapped Barney is of a higher intensity level than the corresponding conflicts in the other three episode: Opie's efforts to care for the birds in *Opie the Birdman*, Opie's struggle with his conscience in *Opie's Ill-Gotten Gains*, or Barney's disagreement with Mrs. Mendelbright in *Up in Barney's Room*. In terms of Greimas' second formulation, $NU_2 = F: \text{domination } (S_1 \leftrightarrow S_2)$, again Andy's triumph over the federal authorities and rescue of Barney is a greater achievement than the capture of the con man, Mr. Fields, in *Up in Barney's Room*, Opie's release of the birds in *Opie the Birdman*, or Opie's higher grade on his math test in *Opie's Ill-Gotten Gains*. Similarly, the acclaim earned by Andy for his besting of the government agents as represented by the narrative grammatical equation $NU_3 = F: \text{attribution } (S_1 \leftarrow O)$, is again of a higher order than the return of Barney to Mrs. Mendelbright's house, or the praise earned by Opie for his improved grades, or his fine care and subsequent release of the orphaned birds.

Regardless of the narratological method employed, *Black Day for Mayberry* stands out as a consistently distinctive episode among the group of four, with a greater number of structural character functions and narrative moves, a higher density of semiotic information working as story codes, and a measurably more elaborated narrative grammar. The degree of narratological distinction between the four episodes is quite remarkable given the widely accepted notion that television series work out

of a generally fixed set of formal and expressive possibilities leading to the idea that there is relatively little variation between episodes of a given series. Together, these triangulated narratological models produce a clear understanding of what factors make the anomalous episode so distinct from the other three in the sample, and produce results that are more comprehensive and coherent than had only one approach been employed for this purpose.

Conclusion

A number of salient conclusions might be drawn from the analysis. First and foremost, given that this study is the first ecologically valid testing of the laugh track from an academic perspective, is the notion that the laugh track can be seen as perhaps a moderate (though not necessarily statistically significant) enhancement to the comic appeal of a television program. The surprising outcome is that this phenomenon holds true only under certain narrative conditions. For those programs that are more narratologically limited, structurally, semiotically, and semantically, there may be a small boost in perceived humor and overall enjoyment from the use of a laugh track. In narratives of greater complexity with a higher density of story information, more dramatically intense character functions and intricate moves, and more fully articulated narrative grammar, in short, those that resemble traditional motion pictures as opposed to simplified theatrical presentations, the laugh track appears to be an impediment to humor and audience enjoyment. This discrepancy leads to a model for the television industry that allows for the determination of the circumstances under which the laugh track might be more or less effective.

The findings further demonstrate that each episode of a television series must be considered unique for the purposes of analysis, and that there is more variation based on episodic distinction than previous approaches would suggest. It might then be concluded that the commodity model has failed television studies. A focus on the cumulative, incremental impact of television viewing (also criticized by Greenberg, 1988) has blinded social and behavioral scientists to the artistic, stylistic, and audience response differences inherent in the narrative and execution of the individual TV episode. In this way, one unfairly and misguidedly devalues the smallest unit of the television product. This has deleterious potential for any survey, content analysis, or critical analysis that emphasizes the series over the episode, and for any experimental investigation that utilizes only a single "exemplifying" episode. This episodic specificity is critical to understanding the laugh track.

A highly contested component of television situation comedy program content, the laugh track generally has been reviled by creative figures at the same time as its value has been little questioned by network executives. This study reveals the matter to be far more complicated than either perspective allows, and that the positive or negative effect of the laugh track on comic and narrative enjoyment of situation comedy is predicated not on absolute values, but on individual qualities of the program at the episodic level. Particularly in light of the study's revelation of the distinctive-

ness of the individual episode, one must acknowledge the fact that this research has focused on only one sitcom. *The Andy Griffith Show* remains a familiar presence on the cable television landscape, but is just one of hundreds of potential stimulus sources. Further investigations may extend this approach to the study of comedy programming produced in more recent time periods, using different formats, with different target audiences, and with reliance on different humor types. The impact of live audience laughter vs. the prerecorded laugh track may also be investigated.

Perhaps most important among the findings is the idea that while quantitative and qualitative methodologies are both valid and useful on their own, they can be brought together to examine cultural phenomena (or potentially any object of study) in a way that is more comprehensive and illuminating than either approach used individually. Quantitative data require theoretic frameworks for interpretation, and qualitative analysis similarly demands empirical observation, without which there is simply no basis for drawing conclusions. To use quantitative empirical methods to generate data and qualitative theory as a means of informing and enriching analysis allows each approach to do what it does best in the service of producing the most valid and valuable results. In the case of the laugh track study, without the conjunction of the empirical and the theoretical, one could not have first recognized how the episodes in the sample were perceived differently and then determined what variants worked to produce such initially puzzling results. It is hoped that similar fusion models, bringing together the generally disparate qualitative and quantitative methodologies, can be used to invigorate media studies and dissolve the artificial barriers that have kept these potentially mutually informative approaches separate for far too long, to the benefit of neither the scholar nor the discipline.

References

- Barthes, R. (1974). *S/Z: An essay* (trans. R. Miller). New York: Hill and Wang.
- Beck, K., & Clark, J. (2000a). *The Andy Griffith Show book*. New York: St. Martin's Griffin.
- Beck, K., & Clark, J. (2000b). *Mayberry memories*. Nashville, TN: Rutledge Hill Press.
- Berlyne, D. E. (1972). Humor and its kin. In J. H. Goldstein & P. E. McGhee (Eds.), *The psychology of humor: Theoretical perspectives and empirical issues* (pp. 43–60). New York: Academic Press.
- Chapman, A. J. (1973). Funniness of jokes, canned laughter and recall performance. *Sociometry*, 36(4), 569–578.
- Chapman, A. J. (1983). Humor and laughter in social interaction and some implications for humor research. In P. E. McGhee & J. H. Goldstein (Eds.), *Handbook of humor research, Vol. 1* (pp. 135–157). New York: Springer & Verlag.
- Chapman, A. J., & Chapman, W. A. (1974). Responsiveness to humor: Its dependency upon a companion's humorous smiling and laughter. *Journal of Psychology*, 88(2), 245–252.
- Devereux, P. G., & Ginsburg, G. P. (2001). Sociality effects on the production of laughter. *Journal of General Psychology*, 128(2), 227–240.
- Fine, G. A. (1983). Sociological approaches to the study of humor. In P. E. McGhee & J. H. Goldstein (Eds.), *Handbook of humor research, Vol. 1* (pp. 159–181). New York: Springer-Verlag.
- Freud, S. (1960 [1905]). *Jokes and their relation to the unconscious*. New York: Norton.
- Fry, W. F. (1963). *Sweet madness: A study of humor*. Palo Alto, CA: Pacific Books.

- Fuller, R. G. C., & Sheehy-Skeffington, A. (1974). Effects of group laughter on responses to humorous material: A replication and extension. *Psychological Reports*, 35(1, Pt 2), 531–534.
- Graziano, W. G., & Bryant, W. H. M. (1998). Self-monitoring and the self-attribution of positive emotions. *Journal of Personality and Social Psychology*, 74(1), 250–261.
- Greenberg, B. S. (1988). Some uncommon television images and the drench hypothesis. In S. Oskamp (Ed.), *Applied social psychology annual: Vol. 8. Television as a social issue* (pp. 88–102). Newbury Park, CA: Sage.
- Greimas, A. J. (1987). Elements of a narrative grammar (trans. C. Porter). In V. Lambropoulos & D. N. Miller (Eds.), *Twentieth century literary theory: An introductory anthology* (pp. 304–328). Albany, NY: State University of New York Press.
- Judge, M. (2003, May 8). Charlie Douglass RIP: Two cheers for canned laughter. *The Wall Street Journal*. Retrieved February 13, 2008, from <http://www.opinionjournal.com/la/?id=110003464>.
- Kelly, R. (1994). *The Andy Griffith Show*. Winston Salem, NC: John F. Blair, Publisher.
- Koestler, A. (1964). *The act of creation*. London: Hutchinson.
- Lawson, T. J., Downing, B., & Cetola, H. (1998). An attributional explanation for the effect of audience laughter on perceived funniness. *Basic and Applied Social Psychology*, 20(4), 243–249.
- Leventhal, H., & Cupchik, G. (1976). A process model of humor judgment. *Journal of Communication*, 26(3), 190–204.
- Leventhal, H., & Mace, W. (1970). The effect of laughter on the evaluation of a slapstick movie. *Journal of Personality*, 38(1), 16–30.
- Malpass, L. F., & Fitzpatrick, E. D. (1959). Social facilitation as a factor in reaction to humor. *The Journal of Social Psychology*, 50(2), 295–303.
- Martin, G. N., & Gray, C. D. (1996). The effects of audience laughter on men's and women's responses to humor. *Journal of Social Psychology*, 136(2), 221–231.
- Martin, R. A. (2007). *The psychology of humor: An integrative approach*. Amsterdam: Elsevier.
- Neuendorf, K. A., with Fennell, T. (1988). A social facilitation view of the generation of humor and mirth reactions: Effects of a laugh track. *Central States Speech Journal*, 39(1), 37–48.
- Neuendorf, K. A., & Skalski, P. (2000, June). *Senses of humor: The development of a multi-factor scale in relationship to moving image utility*. Paper presented at the annual conference of the International Communication Association, Acapulco, Mexico.
- Neuendorf, K. A., & Skalski, P. (2009). *Measuring senses of humor: The validation of a multi-factor scale*. Manuscript in preparation.
- Olson, J. M. (1992). Self-perception of humor: Evidence for discounting and augmentation effects. *Journal of Personality and Social Psychology*, 62(3), 369–377.
- Platow, M. J., Haslam, S. A., Both, A., Chew, I., Cuddon, M., Goharpey, N., et al. (2005). "It's not funny if they're laughing": Self-categorization, social influence, and responses to canned laughter. *Journal of Experimental Social Psychology*, 41(5), 542–550.
- Propp, V. (1990). *Morphology of the folktale* (trans. L. Scott, ed. L. Wagner). Austin, TX: University of Texas Press.
- Shultz, T. R., & Horibe, F. (1974). Development of the appreciation of verbal jokes. *Development Psychobiology*, 10(1), 13–20.
- Smith, J. (2005). The frenzy of the audible: Pleasure, authenticity, and recorded laughter. *Television & New Media*, 6(1), 23–47.
- Smyth, M. M., & Fuller, R. G. C. (1972). Effects of group laughter and responses to humorous material. *Psychological Reports*, 30(1), 132–134.
- Spencer, H. (1860). Physiology of laughter. *Macmillan's Magazine*, 1, 395–402.
- Vaughan, D. R. (2004). Why the *Andy Griffith Show* is important to popular cultural studies. *The Journal of Popular Culture*, 38(2), 397–423.
- Zillmann, D., & Bryant, J. (1980). Misattribution theory of tendentious humor. *Journal of Experimental Social Psychology*, 16(2), 146–160.

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