

**“The Wreck of the Old 97”:
A real event remembered
in song**

WANDA T. WALLACE AND DAVID C. RUBIN

“The Wreck of the Old 97”¹

They gave him his orders at Monroe, Virginia
Saying Steve you're away behind time
This is not thirty-eight but it's old ninety-seven
You must put her in Spencer on time

Steve Brooklyn said to his black greasy fireman
Just shovel in a little more coal
And when we cross that White Oak Mountain
You can watch old ninety-seven roll

It's a mighty rough road from Lynchburg to Danville
And a line on a three mile grade
It was on this grade that he lost his air-brakes
And you see what a jump he made

He was going down grade making ninety miles an hour
When his whistle began to scream
He was found in the wreck with his hand on the throttle
And was scalded to death by the steam

Come all you young ladies you must take warning
From this time now and on
Never speak harsh words to a loving husband
For he may leave you and never return

Number 97 was a fast mail train, owned by the Southern Railway, which ran between Washington and Atlanta from 1902 to 1907. The real event described in the ballad occurred on December 27, 1903. Number 97 reached Monroe, Virginia, about an hour behind schedule. Joseph A. Broady, the engineer taking charge at Monroe, was new to the Southern Railway and was unfamiliar with treacherous points in Number 97's route (Cohen, 1981; *Newsleader*, 1903). Broady was nicknamed “Steve” after Steve Brody, who leaped from the Brooklyn Bridge on a bet and survived (Cohen, 1981; Hubbard, 1945).

From Monroe to Lynchburg, Virginia, Number 97's route passed the White Oak Mountain grade. Just north of Danville, Virginia, the tracks crossed the Stillhouse Trestle. The trestle, 75 to 100 feet above the creek,

was preceded by a curve and another descending grade. It was at this trestle that the wreck occurred. Apparently, Broady approached too fast (Hubbard, 1945; *News and Observer*, 1903; *Newsleader*, 1903). The engine and the five cars behind it left the track 50 feet before the trestle and landed in the creek ravine. Nine people died, including the engineer, fireman, conductor, and flagman. According to reports of nearby residents, Broady was not killed instantly in the crash, but was badly scalded (Cohen, 1981; Yarbough, 1978).

More than the usual information is known about the development of the ballad "The Wreck of the Old 97" as a result of a copyright suit in which a folklorist served as consultant. Current opinion holds that the ballad began with a variation of "The Ship That Never Returned" (Cohen, 1981). Several such songs, some involving trains, are known to have existed in the ballad tradition at the time of the wreck of Number 97. In addition, "The Wreck of the Old 97" has roots in "Parted Lovers," which is a traditional American ballad of unknown origin. The last verses of both contain similar warnings to young maidens to be kind to a faithful lover or else he will never return. One supposed author claims to have used "Parted Lovers" as the basis for his version of "The Wreck of the Old 97" (Cohen, 1981).

More than one person claimed authorship of "The Wreck of the Old 97." Copyrights were granted to two different people, and early recordings were made by four different artists. A lawsuit between David Graves George and Victor Talking Machine Company over royalties was brought to court in 1931. The court found in favor of George; however, subsequent appeals reversed that decision (Cohen, 1981). At the trial, the judge acknowledged that two other people, Noell and Lewey, and possibly others could have authored other versions of the ballad, but that these versions were not those involved in the records made by Victor (Cohen, 1981; *Victor Talking Machine Company v. George*, 1934).

At the court trial, almost 30 years after the wreck, five people gave five different versions of the ballad. The versions from these five people, which vary from 5 to 14 verses, are listed in the first half of Appendix Table 11.A. The versions from Lewey and Noell are taken from R. W. Gordon's collection (Gordon, 1925) as recorded in 1925. The other versions are taken from the *Federal Reporter* (*Victor Talking Machine Company v. George*, 1934). Across all five versions there are five common verses that are roughly the same as those given in the version cited at the beginning of this chapter. The main differences between versions concern the opening verses, the inclusion of various details spoken by the engineer or observers, and the use of the verse beginning "Did she ever pull in."

That so many people would claim to have composed one song is not

surprising given the nature of the ballad tradition. Ballads are part of a living tradition in which variants are passed orally among the singers and over generations and into which new ballads can enter. In fact, most of the singers we tested were able to generate a ballad quickly from a newspaper clipping of a train wreck.

There is no "right" version of any ballad, according to the singers we have interviewed. Each singer has an individual version, usually learned from a particular person, that is equally as valid as any other version. Singers admit that on occasion a line or verse is intentionally changed to improve the ballad. Additionally, it is not uncommon to find verses from one ballad incorporated into a different ballad. At the time "The Wreck of the Old 97" was popular, many songs in the tradition had similar lines telling the story of a train or ship wreck and the loss of lives (White, 1952). Given a memorable and much-talked-about event such as this wreck, it is likely that more than one person would have attempted to compose a song about the event. Furthermore, these singers would have had the same traditional background from which to compose the song. It is also likely that several singers could have composed similar songs, given the norms in the tradition. Furthermore, once such songs circulated in the tradition, singers would likely borrow from each other. Because ballads typically have no known author, it would not be important for singers to remember from where verses were borrowed.

Our studies of counting-out rhymes, epic poetry, and ballads have led us to the view that multiple constraints play large roles in keeping oral traditions stable over time. In ballads, the multiple constraints are based on music, poetics, narrative structure, and imagery. These constraints limit the possible choices for any one word or phrase and thereby reduce the memory load. That is, the constraints, plus a minimum of detailed information, can be transmitted instead of the exact words. This view of multiple constraints is much the same as Bartlett (1932) suggested for the single constraint of meaning. Here, however, we assume that singers display not only effort after meaning but also effort after all the forms of organization present in the ballad tradition. The combination of these forms of organization, or constraints, in oral traditions leads to a much more stable transmission than Bartlett observed in material that lacked forms of organization other than meaning.

All that is needed in addition to these general constraints to keep a particular ballad, such as "The Wreck of the Old 97," stable is the memory for the details of which particular memory, poetics, story line, characters, places, and so forth, are to be used. These numerous rules severely constrain the ballad that can be sung and thereby increase its stability. Changes can occur in some of the details selected on each telling, but the multiple constraints will tend to limit systematic drift over tellings of the

same ballad. It is as if the rules, or constraints, rather than the particular telling, are being transmitted.

Although ballads and oral traditions in general are stable over retellings, these traditions are not transmitted verbatim (Goody, 1978; Havlock, 1978; Hunter, 1985; Lord, 1960; Ong, 1982). Changes, which are considerable in some traditions, occur in retellings. Ballads are not an exception.

The noteworthy event of the wreck of Number 97 was captured in the ballad tradition. The ballads conformed to the existing norms in the tradition, which include, among other things, high imagery, a four-line verse with four beats per line, a rhyming scheme involving the last words in the second and fourth lines, and a simple rhythmical structure. As shown in Appendix Table 11.A, the ballad existed in the tradition, commercially and noncommercially, in the mid-1920s. White (1952) listed six versions, including the one at the beginning of this chapter, that were collected from traditional, noncommercial sources between 1912 and 1944.

"The Wreck of the Old 97" is still sung in North Carolina and, for the most part, is transmitted not by written text or recording but by memory.² The question we address in the remainder of this chapter is how memory influences the retelling of this ballad and how the characteristics of the tradition influence memory. We begin by asking how recall of this ballad varies between two performances by the same singer and how recall varies between singers.

Versions of "The Wreck of the Old 97" by current singers

As part of a larger project, traditional ballad singers were asked to sing all the train and shipwreck ballads they knew. A person is considered a traditional ballad singer if that person knows several ballads and reports learning most of that repertoire orally from another singer. Singers were never prompted or cued during the interview. Five of the 11 traditional singers interviewed gave a full rendition of "The Wreck of the Old 97." Each of the five singers sang the ballad on two different occasions separated by a mean of 6 months. All five singers have always lived in North Carolina. Each singer plays a guitar, fiddle, or another stringed musical instrument, but none reads music.

Each singer's version is unique. No singer gave exactly the same version on the two performances. The last half of Appendix Table 11.A gives the words to the song as recalled by each singer. The changes from the first to the second session are indicated in parentheses. Singers are identified by their initials. The characteristics discussed next are abstracted from the songs as sung by these singers. In actual renditions, these characteristics are not isolated, but interact and intertwine.

Table 11.1. *Changes in singing from first session to second session*

| Singer | Word substitutions | Word additions (+) and deletions (-) |
|--------|---|--|
| BM | straight-tall Border-Border's can't you-saying it's-on is-was message-news said-read ye-you learn-on the whistle-his whistle | said (+) |
| TS | well it's-this is it's a line-lined great white mountain-white oak mountain | well (+) said (+) when his (-) was (-) |
| WM | he was-they were | all (+) |
| DW | she-he the whistle-his whistle | then (+) and (+) yes (+) |
| WA | Blowee-victory Captain-Buddy thirty-ninety says-saying he was-and we'll-we're going to | well they (+) he (+) going down grade making (+) |

Changes in recall within a singer

Changes in singing the same ballad on two different occasions, like errors in recall, can provide clues to how material is recalled. If our hypothesis about the role of constraints is correct, then we would expect changes on less constrained words as well as changes that tend to preserve the existing constraints.

The changes that singers made were characterized into four categories: (a) substitutions, (b) adding/deleting words, (c) adding/deleting verses, and (d) inverting order of phrases. As will be demonstrated, these changes are mostly variations within the poetic and semantic constraints of the ballad. All word substitutions, additions, and deletions found within singers are listed in Table 11.1.

There are very few changes between versions by the same singer. Of these 34 changes listed in Table 11.1, there are 10 instances involving

words with poetic ties to another word in the line. The first versions from all singers have an average of 21% words involved in poetics. Thus, for 34 changes, 7 would be expected to involve poetics if word changes were random. From these numbers there is no reason to conclude that poetically constrained words are less likely to change than any other words. However, some of these changes preserve the poetic constraint even if the specific word changes. Three of the four rhyme changes preserve the rhyme sound. The other rhyme change involves the weak end rhyme "learn–return" and the frequently observed alternate "on–return." The remaining six poetic changes involve words that alliterate or assonate with an adjacent word in the line. Words alliterate when they begin with the same sound, usually a consonant, but end with different sounds. Assonance occurs when two words have the same vowel sound in the accented syllable, but not the same consonant sounds. None of these changes preserves the poetic sound. However, 50% of these changes involve a weak assonance: "his–whistle." Strong alliterations such as "rough–road" and assonances such as "grade–making" do not change between versions by the same singer. Although the changes observed here indicate that poetically constrained words change randomly, there is reason to suspect that poetic constraints, especially rhymes, are preserved and to expect that the stronger the poetic constraint, the less likely the word is to change.

There are two instances in these songs in which the order of phrases within a line is inverted:

"It's a mighty rough road from Lynchburg to Danville" versus "From
Lynchburg to Danville it's a mighty rough road"
"I stood on the mountain one cold frosty morning" versus "One cold frosty
morning I stood on the mountain"

Both phrase inversions occur for the same singer (BM) and on the first line of a verse. One might expect to find more such inversions. However, inversions can occur only on the first and third lines of a verse, or else the end-rhyme found in the second and fourth lines is lost. Second, most of the remaining lines in the ballad are sentences that are not easily inverted.

In two instances, a verse is dropped in one of the versions by a singer. In one case, singer WM did not recall the verse until he had finished the song in the second session. He noted that something was missing. Humming and singing through the first line of each verse, he recalled the omitted verse at the correct location and then sang that verse in full.

In the second instance, singer WA had difficulty recalling the last verses in both sessions. In the first session, the first two lines are found in other versions of "The Wreck of the Old 97"; however, the last line is not the standard last line of this verse. In the second session, the first three

lines of the last verse, often found in a different train-wreck song, were imported. The last lines in both sessions have essentially the same gist.

In most ballads, each verse is a four-line structure with four beats on the first and third line and three or four beats on the second and fourth lines. Sometimes the second and fourth lines with three beats are counted as four-beat structure by considering the musical rest after the third beat as an unspoken stress (Bronson, 1969). "The Wreck of the Old 97," as presented at the beginning of this chapter, has four beats on lines 1 and 3 and three beats plus one unspoken beat at the ends of lines 2 and 4. This four-line structure with four beats per line is maintained across sessions, with one exception: singer WA. In the first session, two verses have more than four lines. In each of those two verses, the melody and rhythm are repeated for the extra lines. In the first verse of session 1, the first two lines are sung as if they were the last two lines of a previous verse; thus, the melody and rhythm are those used in all third and fourth lines. In the next to the last line of the first session, the third line repeats the melody and rhythm of the second line. Apparently, even though the singer violated the usual four-line structure, the constraint was known. The only way to compensate for the violation was to repeat part of the structure. Furthermore, in the second session, all verses have only four lines.

The preceding has considered only the changes in words between the first and second sessions. The melodies also vary between sessions for the same singer. Most of these changes occur in the rhythm, such as singing two eighth notes instead of a dotted eighth and a sixteenth note. Thus, the same total time is given to the two notes; what varies is the rhythm. Additionally, as a line requires more syllables, a quarter note will be sung as two eighth notes to accommodate the additional syllables, or vice versa if a line contains fewer syllables. This same type of change occurs for eighth notes sung as two sixteenths. Finally, on occasion, a note one step above or below the note will be sung instead of repeating the same note. Similar changes are observed between verses in the same session.

One singer, BM, made a melodic change between the two sessions. In session 1, he sang the second line with an entirely different melody than in the first session. Instead of descending on the scale, he sang ascending notes. The melody in the second session was closer to that of the other singers. This change varies the melodic scale from a hexatonic to heptatonic scale; that is, the melodic scale changes from one employing only six tones to one employing seven tones.

What does not change across sessions is the number of beats per line, the number of measures in the song, and the notes sung on the quarter beat in each measure. Singers may vary the rhythm and the specific notes around the quarter beats, but the notes sung on the quarter beats do not change. All first and third lines were sung with four beats per line, and

all second and fourth lines were sung with three beats, with a held note or a rest at the fourth beat. All verses had eight measures with 4/4 time. Only one singer, DW, changed the key between the two sessions.

Changes across singers

There are five common verses in Appendix Table 11.A that are similar to the ones given at the beginning of this chapter. When these five verses are recalled, they are recalled in the same order, even though two singers (BM and DW) insert other verses between the common ones. When singers recall the same verse, they use the same end rhyme except in the last verse, as previously discussed. The singer with the longest version incorporates additional verses that round out the details of the song, give the setting, and justify the final “warning to the ladies” verse. The verse that WM omits in one singing (“It’s a mighty rough road . . .”) is also omitted by WA in both singings. The story line flows equally as well without this verse.

Within these five common verses there are changes across singers. For example, consider the line about the “black greasy fireman.” For all versions in the last half of Appendix Table 11.A, the gist of the line is the same, although none of the versions have identical wording.

- BM: He turned around to his black and greasy fireman
- TS: Well then he turned around to his black greasy fireman
- WM: Well Steve Broadway turned to his black greasy fireman
- DW: He turned all around to his white faced fireman
- WA: The engineer whispered to his black greasy fireman


Each version indicates that someone made a gesture to a fireman; however, the versions differ in the name of the person making the gesture, the word indicating the gesture, and the adjectives for the fireman. This line is not unique. Inspection of Appendix Table 11.A will show that most lines have similar differences.

Several aspects remain relatively constant across singers. When singers recall the same verse, the gist of each line in that verse is the same across singers, and the sequence of lines is the same except for the last verse by WA. The end rhyme is also identical except for the “on/learn–return” rhyme. The number of lines and the number of beats per line remain constant. There are few possible phrasings that preserve these constraints. Within the ballad tradition, it seems that most of these possible phrasings occur.


Across singers, the melodic variations are similar to those variations observed within a singer. The specific rhythm may vary. For example, one variation observed between singers is as follows:

Table 11.2. Notes sung on the quarter beats of each measure

| Singer | Measure | | | | | | | |
|--------|---------|------|------|------|------|------|------|-----------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| BM | 5531 | 4468 | 5513 | 2225 | 8883 | 4468 | 5323 | 111 (session 1) |
| | 5531 | 4465 | 5898 | 7778 | 8881 | 4468 | 5532 | 111 (session 2) |
| TS | 5531 | 4468 | 5598 | 7778 | 8881 | 4468 | 5532 | 111 (session 1 = session 2) |
| WM | 5531 | 4468 | 5898 | 7776 | 8881 | 4468 | 5532 | 111 (session 1 = session 2) |
| DW | 5531 | 4468 | 5898 | 7776 | 8881 | 4468 | 5532 | 111 (session 1 = session 2) |
| WA | 5531 | 4468 | 5588 | 7776 | 8881 | 4468 | 5533 | 111 (session 1 = session 2) |

or-ders in versus or-ders in


The difference lies in which syllable is stressed: "or" or "ders." A similar variation occurs in the first line at "Monroe" and in the third line at "old ninety." Another example of a rhythmical change between singers' melodies occurs in the first line:

Vir-gin-ia versus Vir-gin-ia


Again, the difference lies in which syllable is stressed and thus in the time given to each syllable. A similar change occurs in the fourth line at "put her in."

Looking at just the notes sung on the quarter beats of each measure, we can easily identify the constants across singers. Singers vary the incidental notes sung around the quarter beats; however, the notes sung on the quarter beats change only slightly across singers. Bayard (1950) asserted that over time a melodic line becomes fixed at the basic intervals. Bronson (1969) used the notes sung on stressed beats to identify tune families in the Child ballads. In "The Wreck of the Old 97," the stressed beats occur at the first and third quarter beats.

Quarter notes in the time signature of this song are also the locations at which guitar strums should occur. Not all of the singers perform this song with accompaniment; however, all of these singers do play a musical instrument and would be aware of this additional physical constraint whether or not they have ever sung "The Wreck of the Old 97" accompanied by a musical instrument. Whether or not this additional motion on the guitar or other stringed instrument increased the stability of the quarter notes could be tested by examining the quarter notes for two singers—one of whom plays a musical instrument and one who does not.

Table 11.2 gives the scale step sung on each quarter beat by each

singer. All singers perform this ballad in an Ionian, major, authentic scale. The tonic note in the scale is represented by 1: a C in the key of C, or a G in the key of G, and so on. The number 3 represents the third step: an E in the key of C, or a B in the key of G. An 8 represents the octave above the tonic. Across singers, the melody varies in the third, fourth, sixth, and seventh measures only. These changes correspond to the middle of the second line, the first and last beats of the third line, and the middle of the fourth line. There is no question that singers know the same general melody; however, as with the words, none of the melodies are identical.

Summary

There is no evidence of rote recall of this ballad. Each singer makes changes in the wording of the ballad between the two performances. However, these changes are limited by the constraints in the ballad and in the ballad tradition. End-rhyme sound, number of beats per line, and number of lines per verse remain relatively constant. Meaning or gist of verses, sequence of lines within a verse, and sequence of verses remain constant. Singers may add or delete verses that embellish the story. Melodic changes occur, but are also limited by the constraints of the particular type of scale used, the time signature, and the basic melodic line of the quarter beats. None of the singers performs the ballad exactly the same. Yet there are commonalities among singers that are defined by these constraints.

Words and music, although considered separately in the foregoing discussion, are intertwined. The words have a metrical pattern, which must correspond to the rhythmical pattern, the beat structure, and the time signature of the music. A metrical pattern is the series of stressed and unstressed syllables. In this ballad, the meter consists of two unstressed syllables followed by a stressed syllable. Usually the unstressed syllables are shorter in length than the stressed syllable. The meter is defined by the words and limits the number of syllables that can occur at any place. In two-syllable words, the stress falls on the accented syllable. The meter and rhythm are closely related in that the number of stressed syllables equals the number of beats in the music and in that the rhythmical outline is set by the meter. Thus, the music and words constrain each other.

Experiment 1: Learning and recalling "The Wreck of the Old 97"

From the analysis of variation and stability in traditional singers' versions of "The Wreck of the Old 97," we have argued that the constraints

within the ballad and the ballad tradition limit possible variations singers can make in recalling a ballad and that these constraints contribute to stability in recall across singers and across performances by the same singer. Next, we asked undergraduates who were not familiar with the ballad tradition to learn and recall "The Wreck of the Old 97" in order to determine if these recalls were also governed by similar constraints. That is, we asked whether the effects of similar constraints can be observed in a broader population or whether the effects of the constraints are observed only when the learner is familiar with the general characteristics of the tradition.

Method

Subjects. Twenty-seven undergraduates participating in an introductory psychology class served as subjects in this experiment.

Materials. The first version of "The Wreck of the Old 97" from the Frank C. Brown collection (White, 1952) contains the five common verses and served as the stimulus (see Appendix Table 11.B). The last word of line 2 in verse 5 was changed from "on" to "learn" in order to maintain the same rhyme scheme for each verse in the ballad. This variation is found in Appendix Table 11.A (versions by BM, TS, and DW).

A female singer from North Carolina recorded this version of "The Wreck of the Old 97." The melody was learned by listening to five versions performed by traditional ballad singers. She was instructed to enunciate words carefully and to preserve the rhythm present in the melody. No slurred pronunciations were allowed, even if the traditional singers had slurred the words. For example, saying "ol' ninety-seven" rather than clearly pronouncing the "d" in "old" was not allowed. This step minimized the chances that subjects would not understand the words and simplified scoring.

Procedure. Subjects were instructed that they would hear a tape of a ballad and would be asked to recall the ballad. They were told that they would be asked to recall the words exactly as they heard them and in the same order. Over a period of 12 min, subjects heard the recorded song 10 times, with 3-sec pauses between repetitions. There was 1 min of silence at the end of the 10th repetition. Subjects then solved multiplication and division problems for 10 min, after which they were given 10 min to recall in writing the ballad they had heard earlier.

At the end of the recall, subjects were asked to answer several questions, including whether or not they had ever heard the ballad before.

All subjects reported that they had "definitely not" heard the ballad prior to the experiment.

Results

Recalls were scored for the percentage of correct words. A line had to be recalled in the correct sequence in order to be counted as correct. The first correct line in the sequence set the scale for what could follow that line; thus, a line could be omitted without affecting the scoring of subsequent lines. For instance, if line 2 was recalled after line 3, only line 3 was scored as correct. Less than 2% of the total lines (10 of 540) scored were marked as zero recall because they were recalled in the wrong sequence. The number of words correctly recalled in a line divided by the number of words in that line yielded the percentage recall score. Misspellings that preserved the sound of a word were counted as correct recalls. Contractions, where the original song did not have a contraction, and changes in number were counted as incorrect. Words recalled out of sequence within the line were scored as correct. Reliability (Cronbach's [1951] alpha) across subjects for recall of lines equals .95.³

Predicting recalls with ballad characteristics

The constraints and characteristics considered include the meaning value of each line, the imagery value of each line, the percentage of words in each line with a poetic tie to another word in the line or with an end rhyme, the percentage of agreement of each line with the metrical pattern, and the number of causal connections (Trabasso & Sperry, 1985) for each line.

Five observers rated the meaning and imagery values for each line. Meaning value was defined as the importance of that line to understanding the story and its meaning. Imagery value was defined as the importance of that line in obtaining an overall picture or image of the story. A scale from 0 to 9 was used to rate the imagery and meaning values, where 0 indicated *not important at all* and 9 indicated *most important*. Reliabilities (Cronbach's [1951] alpha) for imagery and meaning ratings were .82 and .86, respectively.

Poetic ties consisted of words that alliterated, assonated, or rhymed with other words in the line. Words alliterate when they begin with the same sound, usually a consonant, but end with different sounds. Assonance occurs when two words have the same vowel sound in the accented syllable, but not the same consonant sounds. For example, *lake* and *light* alliterate, whereas *lake* and *made* assonate. Alliterations and assonances were restricted to those words that occurred next to each other within

the line. This restriction was imposed because we thought subjects could not hear instances of alliteration or assonance that were separated from each other. Such instances are extremely difficult to identify reliably even with a great deal of experience.

Words rhyme if they begin with different sounds but the last syllable of each ends in the same sound. Words that rhymed with other words in the same line were counted as having poetic ties. In addition, words were also counted as having a poetic constraint if they were part of an end rhyme. End rhyme occurs when the last words of two lines rhyme.

All such instances of alliteration, assonance, rhyme, and end rhyme were marked within each line. The percentage of words per line involved in one of these poetic constraints was calculated.

There are several common metrical patterns in ballads. In "The Wreck of the Old 97," the metrical pattern is anapestic (that is, two unstressed syllables followed by a stressed syllable). This metrical pattern is set up by the rhythmical beat of the music and the pattern of accented syllables in the line. In this ballad, the first and third lines contain four stressed beats, whereas the second and fourth lines contain three stressed beats (not counting the unspoken beat). **The metrical pattern limits the possible word choices that can fit into a line in that the number of syllables and the stress pattern of those syllables are specified. Some exceptions can occur to the metrical pattern that are not very disruptive.** For example, a single syllable can be stretched to cover two unstressed syllables, and an extra syllable can sometimes be incorporated into the two unstressed syllables. For each line, the number of exceptions to the metrical pattern was counted. The percentage of agreement between the metrical pattern and the line equals the number of possible metrical units (stressed plus unstressed units) minus the number of units that do not agree with the pattern divided by the number of metrical units for that line.

The number of causal connections for each line was determined according to the method outlined in Trabasso and Sperry's (1985) study. A causal connection occurs from line x to line y when the event described in line y could not have occurred if the event in line x had not occurred. Four judges were given this definition and asked to draw all possible causal connections between lines. Two lines were defined as causally connected when three of the four judges agreed. For each line, the number of causal connections to and from another line was counted.

Lines that are high in these characteristics were expected to have better verbatim recall. Table 11.3 gives the Pearson product-moment correlation between all characteristics and the mean percentage verbatim recall. The mean percentage recall for each line is significantly correlated with imagery ratings, metrical agreement, and number of causal

Table 11.3. *Pearson product-moment correlation between variables*

| Variable | (1) | (2) | (3) | (4) | (5) | (6) |
|------------------------|-----|------|------|------|------|-----|
| Mean recall (%) | (1) | | | | | |
| Imagery | (2) | .49* | | | | |
| Meaning | (3) | .06 | .43* | | | |
| Poetic ties (%) | (4) | .15 | .03 | .28 | | |
| Metrical agreement (%) | (5) | .44* | .17 | .40* | .43* | |
| No. causal connections | (6) | .42* | .20 | .17 | .18 | .37 |

*Indicates correlations that are significant at $p < .05$.

Table 11.4. *Results for regression of characteristics on mean percentage recall*

| Variable | Standardized |
|------------------------|--------------|
| coefficient | |
| Imagery | .54* |
| Meaning | -.37 |
| Metrical agreement | .40 |
| Poetic ties (%) | .03 |
| No. causal connections | .23 |

Note: Multiple $R = .72$; $R^2 = .52$; $F(5,14) = 3.02^*$

*Indicates $p < .05$.

connections under the liberal assumption that each line is independent. Imagery and meaning are significantly correlated; however, causal connectedness is not correlated with meaning or imagery. Lines such as "It's a mighty rough road from Lynchburg to Danville" are high in imagery and high in meaning, but are not viewed as causally related to other lines in the ballad. Here, causal connectedness assesses a different characteristic than that assessed by meaning and imagery ratings. Furthermore, causal connectedness (not meaning) is significantly correlated with the mean percentage recall for each line.

The mean percentage recall for each line was regressed on each of the five characteristics. This regression equation is given in Table 11.4. The five independent variables account for 52% of the variance. Only imagery significantly contributes to predicting recalls.

Imagery is a constraint. The picture of the story identifies the primary event and limits what will be included in descriptions and scenes of that

event, as well as implying some causes and sequences. Imagery integrates components into a whole scene and thus constrains the whole, but not the specific words. For undergraduates, the contribution a line makes to the image of a ballad better predicts recall than does the contribution a line makes to an understanding of the story. Whether or not this same observation holds for experienced singers remains to be tested; however, we expect experienced singers to make use of both imagery and meaning of lines.

Recalls of "The Wreck of the Old 97" by undergraduates are governed by some constraints observed in recalls by traditional singers. Undergraduates who are not familiar with the ballad tradition have better recalls of lines with higher imagery. Lines that have strong metrical agreement and greater causal connectedness also show higher recalls.

Experiment 2: Recalls of the ballad without poetic ties

Multiple constraints, we claim, limit the range of possible variation in recall and lead to increased stability in recall and subsequently in transmission. Removing even one constraint should increase the variability in recall. The results from Experiment 1 indicate that imagery, metrical agreement, and causal connectedness significantly correlate with recall. Poetics, however, was not correlated with recall; yet, poetics should have some effect even for a relatively few words. The purpose of this experiment is therefore to demonstrate that recall accuracy is reduced and variability is increased when poetic constraints within a line are reduced. This experiment will hold the other characteristics constant while varying only the percentage of words poetically linked to other words.

Method

Stimulus. Twenty-four words of "The Wreck of the Old 97" were changed in order to eliminate some of the obvious poetic constraints. All but three instances of assonance and alliteration in words that occurred next to each other were removed. In addition, all but two instances of alliteration, assonance, or rhyme in words that were separated by one other word were removed. The words altered from the original version examined in Experiment 1 are given in parentheses in Appendix Table 11.B.

The word changes were selected so that only poetic characteristics were altered. These changes preserved the number of syllables and the stress pattern in the original words. No instances of end rhyme were altered; thus, the most apparent aspects of poetics remained intact. Most of the word changes came from other versions of the ballad. Word

changes were selected so that the meaning and tenor of all lines were preserved. Two observers were asked to compare the altered and original versions and determine if the meaning or implication of any lines was changed by the altered words. Both observers found no such changes. Because of the difficulty in meeting all the constraints mentioned, some of the substitutions may seem better than others to the careful reader. Nonetheless, the results hold even for the very best of the substitutions.

The song was recorded by the same singer with the same tune as in Experiment 1.

Subjects. Twenty-seven subjects from the same population as in Experiment 1 participated in this experiment.

Procedure. The procedure was identical with that in Experiment 1.

Results

The mean percentage of verbatim recall for the ballad equals 55% (SE = 4%), which is not statistically different from the mean percentage of recall from the original version (60%) examined in Experiment 1— $F(1, 52) = 0.93$, not significant.

The differences in recalls for the two versions appear in comparisons of the poetic word pairs. If verbatim recall is scored for just those words that differ between the two versions, then words with poetic constraints are recalled more often than the nonpoetic substitutes—51% versus 24%, $F(1, 52) = 24.81$.

There are five cases in which two words occurring next to each other assonate or alliterate and in which one of the pair is not a pronoun, article, or preposition (i.e., “they,” “the,” “his,” “this,” or “with”). These five word pairs represent the clearest instances of poetics that were changed between the two versions. These word pairs as they occurred in each recording are given in Table 11.5 along with all variations recalled by subjects and with the number of subjects recalling each variation.

There are fewer variations in the original version (left column) than in the altered version (right column). In the left column, most subjects recalled the word pair that was sung. However, in the right column, few or no subjects recalled the exact word pair. When poetic characteristics are removed, there is greater variability in the words subjects recall.

In addition, even normal college students sometimes recovered the original poetic phrases instead of recalling the altered, nonpoetic phrases. These instances are underlined. For example, with the altered

Table 11.5. Recalls of poetic word pairs from the original and the altered versions

| Recalls from original version | | Recalls from altered version | |
|-------------------------------|----|------------------------------|----|
| "behind time" | | "beyond time" | |
| behind time | 17 | beyond time | 4 |
| behind Tom | 1 | <u>behind time</u> | 7 |
| running late | 1 | behind the line | 1 |
| running behind | 1 | ahead of your time | 1 |
| (not recalled) | 7 | righty on time | 1 |
| | | mighty long time | 1 |
| | | before your time | 1 |
| | | get May on time | 1 |
| | | past his time | 1 |
| | | (not recalled) | 9 |
| "Saying Steve" | | "telling Steve" | |
| saying Steve | 9 | telling Steve | 0 |
| said Steve | 6 | <u>saying Steve</u> | 2 |
| Steve | 4 | said Steve | 1 |
| said you're | 1 | they said Steve | 1 |
| said he | 1 | Steve | 3 |
| told him | 1 | (no name or verb) | 1 |
| Dan Brooklyn | 1 | calling Steve | 1 |
| Saying John | 1 | well Steve | 1 |
| (not recalled) | 3 | Johnny | 1 |
| | | to tell Steve | 1 |
| | | tell us Steve | 1 |
| | | and how Steve | 1 |
| | | (not recalled) | 13 |
| "mighty rough road" | | "mighty tough road" | |
| mighty rough road | 13 | mighty tough road | 0 |
| long rough road | 3 | <u>mighty rough road</u> | 1 |
| road is rough | 1 | long tough road | 2 |
| road is . . . mighty rough | 1 | road is tough | 1 |
| long long line | 1 | long way | 3 |
| hard long road | 1 | long hard track | 1 |
| mighty long track | 1 | mighty long trip | 1 |
| long hard road | 1 | long hard road | 1 |
| long haul | 1 | treacherous run | 1 |
| (not recalled) | 4 | long tough hall | 1 |
| | | long long way | 1 |
| | | hard road | 2 |
| | | long road | 2 |
| | | long hard way | 1 |
| | | mighty long line | 1 |
| | | mighty hard road | 1 |
| | | real rough road | 1 |
| | | treacherous & steep trail | 1 |
| | | (not recalled) | 5 |

Table 11.5. (*cont.*)

| Recalls from original version | | Recalls from altered version | |
|-------------------------------|----|------------------------------|----|
| "grade making" | | "grade running" | |
| grade making | 3 | grade running | 1 |
| grade at | 6 | grade | 2 |
| at . . . grade | 1 | grade going | 1 |
| going . . . grade | 1 | grade doing | 1 |
| mountain making | 1 | doing . . . grade | 1 |
| grade | 1 | grade at | 2 |
| making | 1 | mountain at | 3 |
| that at | 1 | hill at | 1 |
| hill making | 1 | at | 1 |
| grade doing | 3 | going | 1 |
| going | 2 | doing | 1 |
| (not recalled) | 6 | went at | 1 |
| | | grade 'round | 1 |
| | | riding . . . grade | 1 |
| | | (not recalled) | 9 |
| "you young" | | "you fine" | |
| you young | 14 | you fine | 14 |
| young | 6 | <u>you young</u> | 2 |
| you | 3 | ye fine | 3 |
| ye | 1 | fine | 3 |
| you fine young | 1 | you | 2 |
| (not recalled) | 2 | young | 1 |
| | | your fine | 1 |
| | | fair | 1 |
| | | (not recalled) | 0 |

word pair "tough road," recalls contain alliterations with the "t" or with the "r," as in "real rough road" or "treacherous trail." Even if some of the constraints are temporarily lost, there is a chance of their being recovered. With ballad singers, who are more sensitive to the constraints of the tradition, the effect should be even greater. This effect, more than the absolute differences in recall, indicates the way in which poetics adds to the stability in recall and thus in transmission. It is as if the rules, not the instances constructed from those rules, are being transmitted. To the extent that the rules can be fulfilled with only one word pair, recall and thus transmission will not vary (Rubin & Wallace, 1986).

Even though subjects more often recalled the exact wording of the original version, there is no statistical difference between ratings of recall accuracy for the two versions. In both experiments, subjects rated their

confidence in the accuracy of verbatim recall at the end of the experimental session using a rating scale from 1 to 7, where 7 indicates no lines recalled verbatim, and 1 indicates all lines recalled verbatim. The mean ratings for the original and the altered versions were 4.33 and 4.35, respectively – $F(1, 52) = .002$, not significant.

In summary, the overall percentage recalled for the altered version does not statistically differ from the percentage recalled for the original version. However, when only the altered word pairs are scored for recall, the percentage of verbatim recall is greater for the original poetic pairs than for the altered nonpoetic pairs. Furthermore, when poetic constraints are removed, recalls have greater variation in word choices. Poetic constraints limit possible word choices and thereby increase stability in recall.

Experiment 3: Effect of rhythmical information on recall

In the preceding experiments, the words to be learned were presented as a song. This experiment concentrates on an aspect of the song, the rhythm, another constraint that contributes to stability in recall.

When traditional ballad singers are asked what they do to recall a ballad, singers often reply that one must get the rhythm and/or melody in one's head before one can sing the song. Furthermore, singers report difficulty recalling a song with an irregular rhythm.

By "rhythmical pattern" is meant an idealized combination of the metrical pattern and the timing constraints of the ballad. The metrical pattern is the series of stressed and unstressed units that repeat throughout the ballad and is primarily determined by the words. In this ballad, the metrical pattern consists of two unstressed units followed by a stressed unit, where a unit is usually one syllable. In the musical score of this ballad, there are four beats per measure, with a stressed beat falling on the first and third beats of each measure. These stressed beats correspond to stressed units in the metrical pattern. In this ballad, two unstressed syllables are spoken or sung as fast as one stressed syllable. The pauses incorporated into this ballad occurred at the ends of lines 2 and 4. Here, the pause acts as an additional (unspoken) stressed beat or metrical unit. This definition of rhythmical pattern considers the basic, regular, constant case. In singing, the rhythmical pattern might be livelier and not so monotonous.

In the following experiment, the rhythmical pattern is either omitted or emphasized in the stimulus. If rhythmical information is a good learning or recall cue, then recall should be greater when the rhythmical information is given.

Method

Stimulus. The same ballad was again used in this experiment. Here, the ballad was spoken rather than sung. The ballad was read with either (a) normal voice intonation, as if a story were being read, (b) rhythmical intonation in which stressed syllables were clearly emphasized, or (c) the same rhythmical intonation as in (b) and with a beat tapped in the background corresponding to each stressed syllable. The last two conditions differed only in the addition of the tapped beat. This tap is much like what an audience would do when clapping along with a song. A male voice recorded all three stimulus variants.

Procedure. The procedure was identical with that in the previous experiments.

Subjects. Eighty-seven subjects from the same subject population participated in this session. Each group of 27 subjects heard one of the three stimulus tapes.

Results

The mean percentage recall in the three conditions (normal voice, rhythmical voice, rhythmical voice plus beat) averaged 57%, 56%, and 64% words correct, respectively. Using a repeated-measures analysis of variance, a significant main effect of line – $F(38, 1,482) = 18.02$ – and a significant interaction of condition and line – $F(38, 1,482) = 1.43$ – were found. The main effect of condition was not significant – $F(2, 78) = 1.24, p > .29$.

The interaction of line and condition indicates that some lines are better recalled in one condition than in another. Lines that fit the rhythmical or metrical pattern best should have more accurate recalls when rhythmical information is present. To assess this explanation of the interaction of condition and line, the mean percentage recall for each line was correlated with the metrical-agreement measure from Experiment 1. The recalls significantly correlate with metrical agreement in the rhythmical-voice condition and in the rhythmical-voice-plus-beat condition – $r = .52$ and $r = .57$, respectively. However, in the normal-voice condition, metrical agreement does not significantly correlate with percentage recall – $r = .38$.

Rhythmical information is yet another constraint present in ballads that contributes to stability in recall. The rhythmical pattern limits the number of syllables and the number of words in a line and thereby increases verbatim recall or decreases variation in recall. The rhythm and the beat emphasize certain words. The musical notes corresponding

with beats are also the stable points in singers' recalls. The rhythmical pattern links the words and the music.

Summary

"The Wreck of the Old 97" describes a real event that occurred in 1903. **That event entered the ballad tradition using a form that appears to have been adopted from other songs about ships. Ballads describing that event are still sung in North Carolina.**

By examining the versions of this ballad from five singers, we observed that every singer made changes in the song between two performances. Singers were not performing by rote. Furthermore, although each singer was clearly singing the same ballad, none of the renditions were identical across singers. There was variation, but that variation occurred within bounds that inhibited systematic changes over time and limited the set of possible variations. Stability was maintained without maintaining a fixed text.

The changes that did occur followed constraints within the ballad. Rhyme pairs, verse content, story sequence, meter, number of beats per measure, and number of measures did not change across singers. The melody line was stable around the quarter beats in each measure. Verses that embellish the story by adding details but do not change the story line may be added or omitted by different singers. When the phrasing of a line is altered, all these characteristics are still preserved. The combination of these characteristics then limits the possible variations a ballad can have.

The memory for the ballad is not the exact song, nor is it a collection of words; rather, it is a collection of rules and constraints. This notion is the same one that Bartlett (1932) labeled "schema." Here, however, we have not only a schema for gist but also a schema for poetics, rhythm, imagery, and music. Together these schemata, and possibly others, constrain recall to the extent that it almost appears rote or verbatim.

Finally, by examining recalls of the ballad from undergraduates in a learning paradigm, we observed that undergraduates could make use of many characteristics. Lines with high imagery values or many poetic constraints were recalled more accurately. When the metrical agreement and the poetics were high, recall was more accurate. When poetic constraints were removed, recalls had greater variability across subjects. Finally, when rhythmical information was emphasized in the stimulus, recalls were more accurate.

All of these characteristics interact together to limit variations in recall and thus increase the stability in recall and in transmission of a ballad. Moreover, the variation that does exist is variation within constraints. As long as the constraints do not change over generations, neither will the ballad "The Wreck of the Old 97."

Appendix Table 11.A. Versions of "The Wreck of the Old 97"

| | |
|---|--|
| Fred Jackson Lawey (recorded 10-14-25 by R. W. Gordon) (from Gordon, 1925, NC 4) | Charles Weston Noell (recorded 10-14-25 by R. W. Gordon) (from Gordon, 1925, NC 1) |
| Last evening I stood on a mountain Just watching the smoke from below It was springing from a long slender smokestack Way down on the Southern Road | Come all of you fellows and gather around me And a sad sad story to hear All about the wreck of old Ninety-seven And the death of the brave engineer |
| | At the Whiting Station on that wet Sabbath morning Twas just at the rising of the sun When he kissed his wife said "My children God bless you Your father must go out on his run" Steve Broady was the engineer And a brave brave man was he For a many poor man have lost his life For the railroad company |
| It was Ninety-seven the fastest train That the South has ever seen But she run too fast that fatal Sunday evening And the death list numbered fourteen | Ninety-seven was the fastest train That was ever on the Southern Line All the freight trains and passengers had to hold for 97 She's compelled to be at stations on time At Monroe, Virginia he received his orders Saying Steve you are way behind This is not Thirty-eight but it's Ninety-seven You must put her into Danville on time He climbed in his engine at Monroe, Virginia Saying fireman it's do or die I'll reverse the lever throw the throttle wide open We'll watch old Ninety-seven fly |
| Well the engineer was a brave fast driver On that fatal Sunday eve And his fireman leaned far out at Lynchburg Waiting for the signal to leave When he got on board well he threw back his throttle And although his air was bad People all said as he passed Franklin Junction That you couldn't see the men in the cab | Steve Broady he was that engineer On that fatal Sunday eve And his fireman was leaning far out at Lynchburg Just waiting for the signal to leave When they gave him the post he threw back his throttle Although his airbrakes was bad And the people all said when he passed Franklin Junction It seemed like the engineer was mad Steve Broady he said to his black and greasy fireman Just put in a little more coal And when we turn over White Oak Mountain You just watch my driven roll |
| There's a mighty bad road from Lynchburg to Danville And although he knew this well He said he'd pull his train on time into Spencer Or he'd ark it right square into hell When he hit the grade from Lima to Danville His whistle began in scream He was found when she wrecked with his hand on the throttle Where he'd sailed to death from steam | Now it's a awful bad road from Lynchburg to Danville And from Lima it's a three mile grade It was on this grade that his airbrakes failed him And look what a jump she made Falling down this grade at eighty miles an hour His whistle began to scream He was found in the wreck with his hand on the throttle Where he sailed to death from the steam |
| | When the news came slipping over the telegraph wires And this is the way it read That brave engineer that pulled Ninety-seven Is lying in North Danville dead |
| Did she ever pull in No she never pulled in ⁴ Though at one forty-five he was due For hours and hours has the switchman been watching For that fast mail that never came through | Did she ever pull in No she never pulled in You could hear it in silent breath His poor little wife fell back and fainted When the news came home of his death |

⁴This verse was sung as a chorus after every second verse.

Appendix Table 11.A. (cont.)

| | |
|--|---|
| <p>Vernon Dalhart (recorded for Victor Talking Machine Company, 1924) (from Victor Talking Machine Company v. George, 1934)</p> | <p>David Graves George (hand written copy - unknown date) (from Victor Talking Machine Company v. George, 1934) On a cold frosty morning in the month of September When the clouds were hanging low Ninety-seven pulled out from the Washington station Like an arrow shot from a bow</p> |
| <p>They gave him his orders at Monroe, Virginia Saying Pete you're way behind time This is not Thirty-eight but it's old Ninety-seven You must put her in Center on time</p> | <p>They gave him his orders at Monroe, Virginia Saying "Pete you are way behind time It's not Thirty-eight but it's old Ninety-seven You must put her in Spencer on time"</p> |
| <p>He looked round then to his black greasy fireman Just above on in a little more coal And when we cross that White Oak Mountain You can watch old Ninety-seven roll It's a mighty rough road from Lynchburg to Danville And a line on a three mile grade It was on that grade that he lost his average And you see what a jump he made He was going down grade making ninety miles an hour When his whistle broke into a scream He was found in the wreck with his hand on the throttle And a scalded to death with the steam</p> | <p>He looked at his black greasy fireman And said above in a little more coal For when we cross that White Oak Mountain You can see old Ninety-seven roll It's a mighty rough road from Lynchburg to Danville And Lema it's a three mile grade It was on this grade that he lost his average And you see what a jump he made They was going down grade making ninety miles an hour Who when the whistle whistle broke into a scream He was found in a wreck with his hand on the throttle And scalded to death with the steam!</p> |
| <p>Now ladies you must take warning From this time now and on Never speak harsh words to your true love and husband He may leave you and never return</p> | <p>Now ladies you must take warning From this time on Never speak harsh words to your true loving husbands For they may leave you and never return! Did she ever pull in No she never pulled in For hours and hours as watching For the train that never pulled</p> |

Appendix Table 11.A. (cont.)

| | |
|--|---|
| Henry Whittier from Victor Talking Machine Company v. George, 1934) | Singer BM ^b (Recorded June 17, 1983 and November 16, 1983) |
| | I stood on the mountain one cold frosty morning (One cold winter morning I stood on the mountain) Watching the smoke from below It was strolling out of a long straight (tall) smokestack Way down on the southern railroad |
| | The old Ninety-seven was the fastest mailtrain That the South had ever seen She run so fast on that fatal Sunday morning And her detect was number 14 Steve Border's (border) kissed his loving wife Just at the rise of the sun And he said God bless you to my children Your pop is going out on his run |
| | The old Ninety-seven was the fastest mailtrain Ever run on the southern line And when she pulled into old Monroe, Virginia She was Thirty-seven minutes behind |
| They gave him up his order at Monroe, Virginia Saying Steve you're way behind time This is not Thirty-Eight but it's Old Ninety-Seven You must put her in Spencer on time | They give him his orders at Monroe Virginia Saying Steve you're away behind time This is not Thirty-eight but it's old Ninety-seven You must put her into Spencer on time Steve Border's mounted to his cabin Says pal she's due or die He reversed his engine threw open the throttle 'Said! Now watch old Ninety-seven fly |
| | But when they crossed that White Oak Mountain ^c His air brakes was mighty bad And the people did say as they passed Franklin junction That you couldn't see the man in the cab |
| Steve Brooklyn said to his black greasy fireman Just shovel on a little more coal And when we cross the White Oak Mountain You can watch old Ninety-Seven roll | He turned around to his black and greasy fireman Can't you (Saying) shovel in a little more coal And when we cross that White Oak Mountain You can watch my drivers roll |
| It's a mighty rough road from Lynchburg to Danville And a line on a three mile grade It was on this grade when he lost his airbrakes And you see what a jump he made | It's a mighty rough road from Lynchburg to Danville (From Lynchburg to Danville it's a mighty rough road) And Luma it's on a three mile grade It were on this grade that he lost his air brakes And you see what a jump he made |
| He was going down grade making ninety mile an hour When his whistle began to scream He was found in the wreck with his hand on the throttle And was scalded to death by the steam | They were going down grade making ninety miles an hour When the (his) whistle began to scream He was found in the wreck with his hand on the throttle And was scalded to death by the steam The message (news) came in on the telegram wire And this is what it said (read) That the brave engineer who left Monroe this morning Is (Was) a lying over Danville dead |
| So come you ladies you must take warning From this time now and on Never speak harsh words to your true loving husband He may leave you and never return | Come all ye (you) ladies and take fair warning From this time now and learn (on) Never speak harsh words to your true loving husband He may leave you and never return |

^bFor the last five versions, words in parentheses indicate variations as sung in the second session.

^cThis verse was actually sung after the ballad was completed in session 2.

Appendix Table 11.A. (cont.)

| Singer TS (Recorded August 8, 1983 and January 6, 1984) | Singer WM (Recorded November 4, 1984 and June 16, 1985) |
|---|---|
| (WCD) They gave him his orders in Monroe Virginia Saying Steve you're way behind time Well it's (This it's) not Thirty-eight but she's old 97 You must put her in Spencer on time | They gave him his orders in Monroe Virginia Saying Steve you're way behind time This is not Thirty-eight but it's old Ninety-seven You must put her into Spencer on time |
| Well then he turned around to his black greasy fireman (Said) Shovel on a little more coal And when we reach that great white (White Oak) mountain You will watch old Ninety-seven roll It's a mighty rough road from Lynchburg to Danville It's a line (lined) on a three mile grade It was on that grade that he lost his air brakes You should a seen what a jump he made He was going round a curve making ninety miles an hour When his whistle (Whistle) broke into a scream He was found in the wreck with his hand on the throttle Was scalded (scalded) to death by the steam | Well Steve Broadway turned to his black greasy fireman Saying shovel on a little more coal And it's when we hit that White Oak Mountain You can watch Ninety-seven roll It's a mighty rough road from Lynchburg to Danville ² (On the line there's a three mile grade) (It was on this grade that he lost his air brakes) (You should see what a jump he made) He was (They were) going down the curve doing 90 miles an hour When his whistle broke into a scream He was found in the wreck with his hand on the throttle He was scalded to death by steam |
| Now listen to me all you railroad women From this time now and learn Never speak harsh words to your true loving husband He may leave you and never return | Now fall you ladies won't you please take warning From this time and now on Don't you speak harsh words to your true loving husband He may leave you and never return |

²This verse was recalled after the ballad had been completed in session 2.

Appendix Table II.A. (cont.)

| Singer DW (Recorded September 26, 1984 and June 3, 1985) | Singer WA (Recorded March 22, 1982 and April 4, 1982) |
|--|---|
| Oh they gave him his orders at Monroe Virginia Said Steve you're away behind time This is not Thirty-eight it's old Ninety-seven You must pull her into Spencer on time | It's not Thirty-eight but it's old Ninety-seven * It'll make it to Blowee on time (Well they) Gave him his orders in Monroe Virginia Saying Captain (Buddy) you're way behind time It's not Thirty- (Ninety) -eight it's old Ninety-seven It'll take you to Blowee (sawyer) on time |
| Then He turned all around to his white faced fireman Said shovel in a little more coal (And) When we get on top of that White Oak Mountain You can watch Ninety-seven roll Now it's a mighty rough road from Lynchburg to Danville And it's on a three mile grade It was on this grade that he lost his airbrake You can see what a jump she made | The engineer (he) whispered to the black greasy fireman Says (saying) shovel in a little more coal And when we cross that great Smokey Mountain Well! We're going to watch old Ninety-seven roll |
| She (He) was going down grade making ninety mile per hour When the thud whistle broke into a scream He was found in the wreck with his hand on the throttle And he added to death by the steam Then a call came into Washington City And here is what it said The brave young engineer who pulled old Ninety-seven Is lying here in Danville dead | They was going down the grade making ninety miles an hour When the whistle began to scream They found him in the wreck with his hand on the throttle He was (And) added to death by steam |
| Now young wives be kind to your true loving husband And from this a sad lesson learn (Yes) Always be kind to your true loving husband He may leave you to never return | It's not thirty-eight but it's old Ninety-seven * So it took him to Blowee on time The engineering was all he had on his mind They buried him today with all high honors Resting from the weariness of his great troubled mind Now ladies be true to a kind loving husband * They'll leave you to never return It's not Thirty-eight but old Ninety-seven And it's on his way with his last run |
| | *Well his breath slowly waned while his message he said! (To the maiden he thought would be his bride!) (Oh ladies take warning to your fair lady) (They may be on his last ride!) |

*This verse was omitted in session 2.

Appendix Table 11.B. Versions of "The Wreck of the Old 97" used in Experiments 1 and 3

They gave (told) him his (the) orders at Monroe, Virginia
Saying (Telling) Steve you're away behind (beyond) time
This is (And it's) not thirty-eight but it's (the) old ninety-seven
You must put her in (it at) Spencer on time

Steve Brooklyn said (called) to his black (tired) greasy fireman
Just shovel in a little more coal
And when we cross that White (Red) Oak Mountain
You can watch old ninety-seven roll

It's a mighty rough (tough) road from Lynchburg to Danville
And a (the) line on a three mile grade
It was on this grade that (where) he lost his air brakes
And you see what a jump he made

He was going (heading) down grade making (running) ninety miles an hour
When (And) his whistle began to scream
He was found in the wreck with his (a) hand on the (a) throttle
And was scalded to death by the steam

Come all you young (fine) ladies you must take warning
From this time now and learn
Never speak harsh (mean) words to a loving husband
For he may leave you and never return

Note: Alterations used in Experiment 2 are given in parentheses after the words that were changed.

NOTES

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- 1 Version A of "The Wreck of the Old Ninety-Seven" as contributed by W. Amos Abrams of Boone, NC, from *The Frank C. Brown Collection of North Carolina Folklore: Vol. 2. Folk Ballads from North Carolina* (pp. 516–518), edited by N. I. White, 1952, Durham, NC: Duke University Press. Copyright 1952 by Duke University Press; renewed 1980 Duke University Press. Reprinted by permission.
- 2 The most popular of all recordings of "The Wreck of the Old 97" was Dalhart's version, which was last released in 1926. If the song were transmitted from Dalhart's recording, the character would be *Pete*, not *Steve*, going to

Center, not *Spencer*, and he would lose his *average*, not his *air brakes*. Among our singers, these words are not found.

3 All reported statistics occur at $p < .05$ unless otherwise indicated.

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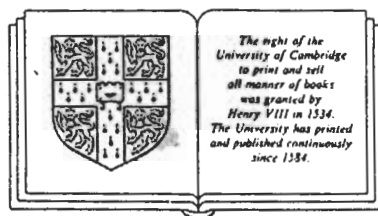
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Edited by

ULRIC NEISSER

and

EUGENE WINOGRAD



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