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Effects of narration on recall of television news: Remembering the video photo essay

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EFFECTS OF NARRATION ON RECALL OF TELEVISION NEWS: 
REMEMBERING THE VIDEO PHOTO ESSAY

by

David Gotfredson

A thesis submitted in partial fulfillment 
of the requirements for the degree of

Master of Arts 
in 
Communication Studies 

Department of Communication Studies 
University of Nevada, Las Vegas 
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ABSTRACT

Television viewers were tested on their level of information gain from the visual as well as the auditory channels of a TV news story. A story was presented in two modes: one with narration (narrated mode) and one without narration (video photo essay mode). In each presentation, the story was shown as part of a half hour news program. Two hypotheses were posed: (H1) auditory information gain will be significantly greater from a video photo essay mode of presentation than from a narrated mode; and (H2) visual information gain will be significantly greater from a video photo essay mode of presentation than from a narrated mode. An additional research question asked: what are the effects of photo essay presentation on free recall of information?

Subjects were randomly assigned to one of two groups. Group one saw the news item in narrated mode (i.e., with narration, sound-bites, natural sound, music, and moving visual cover footage). Group two saw the video photo-essay mode of presentation (i.e., with natural sound, sound-bites, music, and moving picture cover footage, but with no narration sound track). Immediately following the viewing, both groups were given the same test, which measured information gain from the auditory and the visual channels of the news item.

Free recall test results indicated significantly more items were remembered from the story presented in photo essay mode than in the narrated mode. Aided, auditory recall was the same across both conditions. Aided, visual recall was greater in the photo essay mode, but the difference was not significant. The video photo essay received higher ratings in terms of interest and clarity, for example; again though, the differences were not significant in these individual areas of evaluation.
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CHAPTER 1

INTRODUCTION

Since television emerged as the publicly preferred medium for the dissemination of current affairs information, research into television news programming has sought to examine its effectiveness as a tool for learning and understanding. As a medium of communication, television can be a significant motivational force which may, in fact, trigger the learning process in individuals (Anderson, 1972). Likewise, television professionals seek to inform the public in the most effective way possible. Television may have the potential to educate and inform its viewers, but research shows that relatively few stories are remembered from a typical newscast. If millions of people are turning to TV news to gain important knowledge and information, frequently to the exclusion of the print and radio media, it would seem equally important that this material is stored for future use. If television research can provide an indicator to news professionals as to how to make their product more memorable and effective, the end result would be a better informed viewing audience.

News programming itself can be found on all network broadcast stations and numerous cable networks throughout the country. Communication through television also occurs on an international level and impacts society as a whole. Research into television's informational potential provides a clue as to how people
learn and shape their views of social reality. Additionally, TV effects research lays the foundation for the construction of a visual and auditory scheme, to be used by television professionals working toward a goal of creating effective and memorable programming.

Television is broadcast in a dual-channel presentation mode: auditory and visual. Historically, the auditory channel has been regarded as the dominant source of information to the viewer (Jorgensen, 1955; Katz, Adoni & Parness, 1977; Gunter, 1979; Reese, 1984). There is, however, an expanding body of research that examines the role of the visual mode of presentation, both in isolation and in relation to the auditory channel. The following discussion will focus on the role visual and auditory channels play in communicating information to the viewer.

**Dual-Channel Information Processing**

Television news has taken its basic structure from print news; therefore, most researchers treat the verbal text as the primary carrier of information. This can prove problematic because visuals have been judged primarily by what they contribute to the verbal text, and not by what they may contribute independently. For example, while the auditory channel may indeed carry the primary cognitive/informational material, the visual channel may contribute significantly to the affective/emotional elements of the story. Likewise, visuals can spark viewer interest and enjoyment, raise attention levels and contribute to the credibility of the reports (Graber, 1990). Generally speaking, viewers trust the visual presentation as a more accurate representation of the real world. Visual information is absorbed more quickly by the
audience than the verbal text; large amounts of information may be obtained from a mere glance, while words must be processed more slowly (Graber, 1990).

There is disagreement among cognitive psychologists as to the way in which multi-channel information is absorbed and stored. Most psychologists accept the assumption that the human information processing system has a limited capacity. However, some believe that during a dual-channel presentation, such as a newscast, the viewer must switch attention back and forth between the auditory and visual modes. Other studies indicate viewers are able to attend to both channels simultaneously (Drew & Grimes, 1987). Regardless of how the information is processed, one must keep in mind that during a television newscast the auditory and visual channels are presented in tandem. Ultimately, then, the final message is a product of the two. This study will explore the contributions of the visual and auditory channels to the final message and associated information gain.

Almost exclusively, empirical research into television news has focused on learning from news stories that include a narrative reporter audio track (or *voice-over*) (Jorgensen, 1955; Katz et al., 1977; Gunter, 1979; Reese, 1984). Nevertheless, alternative methods of presenting the news are commonly seen on television in the United States. One form of alternative presentation is known as the *video photo essay*. By definition, television news photo essays do not include a reporter voice-over. While the use of video photo essays in newscasts has been sporadic, TV professionals do recognize this format as a legitimate way of presenting the sights and sounds of an event. Frequently, the photo essay is reserved for "soft" news topics: human interest stories, humorous items, or unusual happenings. These stories are sometimes called *features* or *kickers* (referring to their usual placement at the end of the newscast). One
might commonly see a photo essay dealing with a day in the life of an entertainer, children making a snow man, or a St. Patrick's Day parade, for example. Occasionally, the photo essay is used to cover "hard" news (a nuclear protest march, or a presidential inauguration), but these occurrences are rare.

While the video photo essay is used for some types of news, the majority of news items are presented using a verbally narrated format. The television industry has come to rely on the reporter voice-over as the standard way of presenting the daily news. The verbal narrative is, in fact, an irreplaceable part of TV news, especially for presenting certain kinds of stories. It would probably be difficult to describe a intricate court case without using verbal information. Other types of stories do not rely as much on the reporter narrative as they do on the first-hand verbal accounts of witnesses. Imagine a news story about a murder, in which all the viewer heard was testimony from police officers and witnesses on the scene. In such a case, the reporter may not need to describe the events leading up to the killing. In fact, the viewer may see a witness to the murder as a more believable story teller than a third party reporter. So, in some cases, alternative modes of presentation could lead to a more believable and memorable representation of reality.

Creating new forms and codes for presenting news may ultimately expand the amount of information that is absorbed for future use by individuals. Certain members of an audience may show a preference for a more visual mode of presentation; others may lean toward more verbal presentations. Audience demographics may one day determine not only the content of news programming, but the mode of presentation as well. Quantitative analysis of information gain from stories presented in innovative ways will ultimately determine the effectiveness of
alternative modes of presentation. New, effective ways of presenting news will eventually make their way into the mainstream of news programming. The purpose of this research is to investigate an alternative way of viewing the news. It is hoped that this study will further establish the video photo essay as a legitimate and memorable form of TV presentation.
CHAPTER 2

REVIEW OF LITERATURE

Television researchers have been disappointed in the past by the audience's relatively low retention of TV news material. Viewers don't remember much of what they see on television. Katz et al., (1977) found that only two or three stories are remembered from a typical newscast containing 15 items, and 21% of TV news viewers couldn't even remember one story from a newscast. So, it is not surprising that researchers are looking for more effective ways of presenting the news on television.

One of the reasons viewer recall of information from television news is so disappointing may partially be a function of the way recall is measured. One measurement method is called free recall, where viewers are asked to recall elements from a specified program. The other method commonly used by researchers to measure information gain is called cued or aided recall. Typically, a multiple choice test is given.

Findings showing low recall of information from newscasts have historically been based on responses to free recall questions (Katz et al., 1977; Gunter, 1979; Stauffer, Frost & Rybolt, 1983; Graber, 1990). However, more recent research has incorporated cued recall techniques. The use of cued recall tests, it is argued, is more indicative of real-life recall processes that come into effect (during conversation, for
It should come as no surprise that cued subjects remember more from a newscast than viewers who are asked to recall information freely. Hence, when reviewing existing research, it is important to keep in mind that free recall test results may paint a different picture of program effectiveness than results from aided recall testing (Berry, 1983).

Auditory Recall

Most empirical studies have looked at television news as a dual-channel presentational format, including visual and auditory channels (e.g., Hazard, 1962; Gunter, 1980; Reese, 1984; Graber, 1990). Various types of visual presentations have been identified in past experiments, including moving cover footage, still-pictures, graphic slates (full-screen graphs with words), and character generated text (superimposed words). The auditory channel, on the other hand, has been narrowly defined by past research that primarily looks at the narrative reporter voice-over.

Initial studies used free recall questioning to measure learning from the narrative reporter voice-over (e.g., Katz et al., 1977; Gunter, 1980; Stauffer et al., 1983). Subjects were shown a newscast and immediately given a test of retention, during which they were required to write down brief descriptions of the auditory information on a response sheet (Gunter, 1980). More recent studies have also focused on the narrative voice-over audio, but have instead used aided recall methods to test for learning. For example, Reese (1984) used multiple-choice questions to operationalize recall and error as an indication of how much each subject learned from the program audio. "For each story, recall was the number of correct answers and error the number of incorrect responses" (p. 84). Aided tests of recall have now
emerged as the standard for empirically measuring learning from television news (Reese, 1984; Drew & Grimes, 1987, Graber, 1990).

Despite researchers' focus on the voice-over audio track, television professionals recognize their medium as a multi-channel form of mass communication that frequently incorporates more than one audio source. For example, a news story might include a music track. More common than music, though, is the use of interview audio (sound bites), and natural background sounds (nat-sound). The interview sound bite is technically a form of natural sound, and is usually recorded in the field by the videographer. The interview sound is defined as verbal responses to questions in the field. Unlike reporter voice-over, which usually has an objective tone, interview sound comes from individuals who are active participants in the story and tends to be more subjective in content.

In a narrated news story, the reporter voice-over and sound bites trade off as the primary carrier of auditory information. In a video photo essay, there is no reporter voice-over and therefore the sound bites, nat-sound, and visual presentations direct the narrative flow. Reliance on alternative sound sources to carry the story line of a news item may actually help viewers learn more from television news. One study found that the start of a sound bite increases viewers' attentiveness (Edwardson, Kent, Engstrom & Hofmann, 1992). Furthermore, Graber (1990) found that viewers seem to have an interest in close-ups of people and what they are saying. If sound bites do, in fact, increase audience attention and interest, one might predict high recall of information presented in the sound bite. To date, however, recall of sound bite information as compared to recall of narrated information has not been thoroughly examined by empirical researchers.
In stories that use reporter voice-over as the primary information source, this verbal narrative is interrupted by sound bite audio. In video photo essays, however, the sound bite replaces the voice of the reporter, forcing greater attention to the interview sound. In other words, the sound bite audio is interrupted in narrative TV news style, whereas in the photo essay the sound bite audio stands alone (see Figure 1). Based on previous research by Drew and Cadwell (1985) and later by Drew and Grimes (1987), one might expect learning, understanding, and information gain to be greater from a single, continuous auditory source than from a dual, interrupted sound source.
Figure 1: Graphic Representation of Multi-Channel Television News Presentations
Visual Recall

Several researchers have sought to measure visual recall separately from auditory recall. Graber (1990) wanted to see what was remembered from news items viewed in two experimental conditions (with and without visuals). After viewing the stories with visuals, subjects were asked free recall questions as a measure of learning from the visual channel: "Do you recall any of the pictures in this story? Which ones? What did they show? Did they make the story more meaningful? In what way?" (p. 142). Findings showing low recall of news items have historically been based upon responses to this type of open ended questioning. Some researchers have claimed that free or unaided measurement methods may not be a fair representation of the way in which information is recalled from memory (Berry, 1983). They point out that images or words are quite often remembered after one is cued by some external stimulus. In terms of visual recall, one might remember a television news image after seeing something similar in a real life situation, for example.

To raise the recall test scores of news viewers, researchers have turned to aided recall techniques to measure visual learning from television. Drew and Grimes (1987) measured visual recall by videotaping a series of freeze frames and asking subjects to identify any pictures that they remembered from seeing in the newscast. Viewers had to select from a series of 26 freeze frames the 14 that were taken from the moving video used in the newscast they had just watched. Here, too, though, the method of measuring visual recall may not have been representative of how subjects normally recall images. Viewers may indeed see the same or similar moving images on television or in real life at some later time, sparking memory of those images, but they will seldom see the same visuals presented as freeze frames, as was done in the
Drew and Grimes study. A more valid measure of visual recall may be to show subjects the same moving footage and test them on recall of the video. Using measurement techniques that are the same or similar to the experimental stimulus is in accordance with the *stimulus generalization* theory, which states that learning will increase as the testing situation becomes more similar to the presentation situation (Severin, 1967).

Another way of incorporating aided methods to measure visual recall is to use multiple choice questions on a written exam. In 1987, Martin and Ditcham divided the video information from a TV commercial into units. Story boards were used to detail the major characteristics of the video script. "The amount of potential information contained in a video scene at any one time was much greater than that in the audio track" (p. 8), so they decided to include only the video information that was "contributory" to the meaning or integrity of the commercial. A pretest was conducted to assure agreement among several judges as to the number of contributory video units per item. Subjects' answers were scored in terms of the information units they recalled in response to multiple choice questions.

The researchers found that "a significantly greater proportion of the visual material than the auditory material was recalled" (p. 11). This finding may be due to the ability of the video message to attract a greater share of the viewers' attention. Given the fact that the video photo essay relies heavily on visual images to present the narrative of the news story, one might expect better narrative recall from a photo essay mode of presentation.

A recent study by Edwardson, Kent, Engstrom, and Hofmann (1992) sheds some light on the effects of highly visual news stories. News visuals were found to
increase interest and understanding of the story. Likewise, viewers exhibited better recall of stories which contained interesting news visuals. This substantiates an earlier finding by Edwardson, Grooms, and Proudlove (1981) that "people remember more facts delivered in TV news when those facts are accompanied by interesting video... This would suggest that news staffs striving for exciting pictures are simultaneously increasing the amount of information that viewers will remember from newscasts" (p. 22). Television, a highly visual medium of communication, should benefit from the video photo essay, a highly visual mode of presentation. The photo essay, which lacks a clear narrative voice-over, forces the viewer to use alternative means of learning from television news. The television audience is not as familiar with these alternative ways of seeing news and is compelled to look and listen more intently. Given the findings of related past research, one might expect increased levels of visual recall from the video photo essay.

Moving and Still Picture Effects on Information Recall

In television jargon, b-roll refers to the video or film footage used to cover the news story. Alternately, the term cover footage is used. For the purposes of this discussion, b-roll used to cover a story can be moving or still. Moving b-roll is any type of visualization that incorporates live action film or video. As the name implies, still b-roll consists of non-moving pictures or freeze frames. If a story is simply read by the news anchor, no b-roll is used and the story is called a reader. A reader is also referred to as a talking head mode of presentation.

The pioneer study which examined different visual presentations and their effects on recall was conducted by Jorgensen in 1955. Jorgensen found no significant
difference in information gain when comparing a newscaster talking alone with a newscaster speaking over moving pictures. Later research more fully defined the visual component. Hazard (1962) compared moving picture cover footage, still-picture cover shots, and talking-head modes of presentation. His findings reflected Jorgensen's earlier study: "whether or not the news stories are presented by film, still picture or man on camera has little bearing on learning from the telecasts" (p. 51). Subsequent studies have supported the general findings that the type of b-roll used to cover, or not to cover, a news item has no significant effect on information recall from the narrative auditory channel (Edwardson, Grooms & Pringle, 1976; Katz et al., 1977; Drew & Cadwell, 1985).

Gunter (1980) proposed that while the presence of visuals per se may not increase information learning, the type of visual presentation may have an effect when compared to a sound-only presentation. His study used free recall measurement to examine moving picture, still picture, and talking head presentations in relation to a sound-only presentation. He found a significant increase in recall of moving picture stories over the same stories presented in sound-only mode. There was a moderate increase in recall of still picture stories over sound-only presentation. No significant differences were found between talking head and sound-only presentation formats. Gunter admitted, however, the stories presented in that study were very brief, between four and six seconds in length. Thus, the corresponding results must be regarded as relatively gross and the applications to longer format news items are not clear (Gunter, 1980).

In sum, then, a significant body of evidence suggests that there is no notable difference between types of visual b-roll when it comes to information recall. On the
other hand, this debate over the advantages of talking-heads versus moving and still b-roll may ultimately be a moot point, given the fact that few news producers would limit themselves to having anchors read every story (Reese, 1984).

Shot Selection and Editing Effects

Researchers also have looked at TV production techniques as variables affecting information recall. Television editing procedures incorporate a visual grammar with respect to the use of long shots, medium shots, and close-ups. The long shot has traditionally been used for establishing the surroundings of the scene. Medium and close-up shots serve to familiarize the viewer with important details and information within this setting. The manner in which these shots are arranged is determined by a desire to vary shot presentation, while maintaining continuity and smooth transitions between scenes (Anderson, 1972). How this visual grammar is used in a television news story may indeed affect viewer recall and learning.

Drew and Cadwell (1985) sought to determine the effects of jump-cut editing on story interest and information recall. A jump-cut refers to a problem in continuity between two or more shots juxtaposed through the process of editing shots together. Jump-cuts distract the viewer with a major change in perspective. One common way of dealing with the problem of the jump-cut is to change angle, distance or both each time the camera stops rolling (Drew & Cadwell, 1985).

The experimenters studied undergraduate students who viewed news stories in four varying degrees of jump-cut conditions. Other students viewed the same stories without the verbal audio track. Subjects assessed the stories using 20 bipolar scales measuring categories like interest, believability, and clearness. In addition, a seven
question test was administered to measure cued recall of factual information from the auditory channel (Drew & Cadwell, 1985).

The results of the study indicated that viewers were apparently unable to attend to both channels simultaneously, they therefore focus their attention on the verbal text when watching a television news item. The high jump-cut conditions failed to produce negative interest evaluations or recall tests. This shows that attention to the audio was consistent, at the expense of attention to the visual material. Even the highest jump-cut condition did not distract the subjects from the verbal message. It is interesting to note, however, that when the audio was removed, the stories with the most serious jump-cuts did receive less favorable interest evaluations. Without a narrative voice-over, subjects noticed more of the aesthetic elements of the visual channel (namely, the editing discontinuities). This supports the notion that the voice over distracts the television audience from the visual information being presented. Once this distraction is removed, as in a photo essay, visual learning may be increased. The format of the video photo essay forces the viewer of television news to attend to the visual channel, and visual recall may thereby be increased.

It is also noteworthy that when the camera moved in for a close-up, the video was evaluated more favorably. According to the evaluations, moving in for a more intimate, close-up view of the subject improved story credibility, believability, accuracy, and reliability. In addition, the use of the close-up shot proved to be an effective method for masking jump-cuts, while simply changing camera angle did not hide these discontinuities (Drew & Cadwell, 1985).
Viewer Interest in Visuals

While choice of moving versus still cover footage may have a minimal effect on the learning of informational material from the verbal channel, it does affect audience interest and attention to the program. Using cued recall testing to measure information gain from the auditory channel, Edwardson, Grooms and Proudlove (1981) looked at how recall was affected by the incorporation of what they called "interesting" video b-roll as opposed to anchor-only, talking head presentation. In their initial hypothesis, the researchers believed that interesting video would be distracting, and thus would result in less information gain from the auditory channel (Edwardson et al., 1981). However, the hypothesis was not supported. In fact, the stories covered with interesting b-roll footage produced higher scores on the cued recall exams. This finding was in contrast to the prior research findings discussed earlier, indicating no significant differences in information recall with regard to various types of b-roll.

One possible explanation for the increase in recall of information may lie in the viewers' affective, or emotional domain. While information recall lies in the realm of the cognitive, viewer interest in a story is more skewed toward emotions. Perhaps the use of interesting pictures aroused the subjects' curiosity and interest, thus the viewers paid more attention and used the verbal channel to explain the affective pictures (Edwardson et al., 1981).

Interesting pictures strikingly promoted information gain for specific demographic sectors of the audience, mainly subjects who had demonstrated above-average time spent viewing television. These subjects were mainly lower income and less educated viewers. One might speculate that these subjects' past experience with
the forms and codes of television communication is linked to their ability to benefit from interesting picture b-roll. These findings are significant because knowledge of what impact specific types of presentation material has on demographic groups should enable television professionals to construct effective programming that targets desired audiences (Edwardson et al., 1981).

The results of the Edwardson et al. study rest heavily upon the researchers' definition of what constitutes interesting cover footage. While they do indicate that some pre-testing was done "to assure the video was high in interest" (Edwardson et al., 1981, p. 18), they do not indicate the specific criteria used to define the independent variable. This lack of definition makes the experiment difficult to replicate and limits the application of the findings.

Of course, individual differences affect the viewing habits of the audience. Television viewing does not always occur in a laboratory setting, and frequently other activities are simultaneously engaged in while viewing. Thus, extraneous distractions may inhibit viewer attention to the visual channel, and thereby reduce the interest-arousing qualities of the cover footage. In addition, the content of certain news stories may sometimes make it difficult to find interesting b-roll footage, in economic or political stories for example (Edwardson et al., 1981).

**Viewer Attention to Visuals**

Attention is a necessary prerequisite for a viewer's future interest and recall of television programming. As a cognitive process of selection, attention is "the ability to maintain focus on particular stimuli while disregarding or suppressing other stimulation" (Stauffer et al., 1983, p. 30). Levels of attention may be increased by the
use of interesting and dynamic visual b-roll. For example, varying levels of color, light, sound, and story duration may all contribute to the dynamics of visualization. On the other hand, studies of eye movement of subjects who were watching television show visual attention is lost during long scenes (Anderson, 1972). Attention was subsequently recaptured with the introduction of a new scene. Generally, when a more visual information is presented, both viewer interest and attention is increased. Consequently, these factors contribute to cognitive learning and information recall. Visual elements of a news item are clearly not the only contributors to the attention factor of the viewer. Anchor personality, variation in presentational format, and perceived relevance to one's own social situation are just a few of the variables that might explain individual differences in the process of attending to the news.

**Visual Redundancy**

Visual redundancy relates to shot selection and refers to the amount of correlation between the narrative voice-over and the associated visual material. Visual redundancy during a news story may be high, reflecting closely what is being said verbally. On the other hand, visual redundancy may be quite low when the visual information does not closely match the auditory text. Any particular news story may exhibit varying degrees of visual redundancy.

Reese (1984) used aided recall techniques to measure information gain from the auditory channel of news stories. Subjects viewed news segments with high and low degrees of redundancy. The overall findings indicated that redundant pictures and words enhance recall of information, and have a positive effect on learning and reducing error. In addition, it was not enough to provide visuals that were broadly
related to verbal content. The best results occurred when those visuals were directly related to their respective word labels (Reese, 1984). Later follow-up research has indicated that complex stories will benefit most from high visual-verbal redundancy because the visuals serve to reinforce the verbal message. On the other hand, low redundancy conditions tend to inhibit recall of narrated information. This was true for not only contradicting visuals, but non-supporting pictures as well (Son, Reese & Davie, 1987).

Drew and Grimes (1987) elaborated on the earlier research of Reese. This time, cued recall exams were administered to measure information recall and story understanding, from both the verbal and the visual channels. This was important because while recall tests may show how well material is remembered, one must use existing knowledge to make sense of incoming information. It is possible for one to remember things one does not understand (Son et al., 1987). Moreover, by not limiting the testing to information gain from the verbal channel, the effect of redundancy upon visual recall became clearer.

Drew and Grimes found that in the high redundancy condition subjects fell into their normal pattern of news viewing and paid attention primarily to the auditory material. Therefore, both auditory recall and understanding were high, while visual recall was low. When news stories were viewed in the low redundancy condition, the audience focused primarily on the visual information because it was the easiest to absorb. Hence, in the low verbal-visual redundancy condition, visual recall was higher than verbal recall or understanding (Drew and Grimes, 1987).

In general, the findings from research into verbal-visual redundancy indicate that high correlation between word and picture is the best way to improve learning
and understanding from the verbal message of television news programming. Video material should be carefully selected and should provide relevant, redundant cues. The use of non-redundant visual material may in fact distract the viewer from the verbal message and inhibit learning from the text. Choice of illustration influences how much and what is remembered from the verbal message, and affects the perception of the news item.

While visual recall and understanding may be increased by a low picture-word correlation, this is only accomplished at the expense of the verbal information. The research reveals that redundant visuals and audio have a positive effect on learning from the verbal channel. In practice, obtaining video footage in a timely manner that corresponds exactly to the narrated message may not always be possible.

Summary

Research into the area of visual presentations in news programming has revealed that television can be a significant motivational force which may trigger the cognitive and affective processes in viewers (Anderson, 1972). The fact that relatively few stories are remembered from a typical newscast has sparked further research that may help television professionals to construct an auditory and visual rhetoric designed to enhance the effectiveness of news programming. The ability to measure information gain from both the verbal and visual channels of a news presentation will ultimately provide an indication of how to increase learning from TV in general. In television news programming, the verbal text has evolved as the primary carrier of information. However, the final message that the audience receives is a product of both the auditory and the visual presentation. It is, therefore, important to study the
effects of both the verbal and the pictorial channels in relation to one another, as well as individually.

Studies dealing with types of footage used to cover a news story have indicated that whether or not the b-roll is moving or still does not directly contribute to verbal information recall (Hazard, 1962). On the other hand, the use of moving-picture b-roll may contribute to interest in and attention to the news story. Interest and attention, in turn, are related to cognitive recall. Thus, it seems possible that type of b-roll may play an indirect role in recall of the verbal narrative by sparking interest in the story.

Research shows the use of interesting cover footage does affect information recall, and reinforces the idea that increased affective stimulus can lead to improved cognitive processing of television material. Likewise, viewer attention may be increased by the use of interesting and dynamic visual b-roll. In general, presenting a larger amount of visual information to the viewer enhances both interest and attention (Edwardson et al., 1981). Despite the fact that the verbal narrative may distract the viewer from attending to the visual channel, it can still be said that dynamic visuals spark viewer interest and attention. The video photo essay relies heavily on the visual channel to communicate the story narrative. To a greater extent, then, a strong visual component should enhance interest and attention to a photo essay.

How the visual and auditory relate to one another affects the recall of any news story, including the video photo essay. In a narrated story, redundant words and pictures enhance recall of voice-over information and have a positive effect on learning and reducing error. Complex narrated stories benefit most from high verbal-
visual redundancy. Choice of illustration affects the perception of the news item and high correlation between word and picture may be the best way to improve learning and understanding. In other words, when the pictures support the voice-over, viewers remember the voice-over better. On the other hand, when the pictures don't support the words, the visual information is remembered more (Drew and Grimes, 1987). Viewers remember the visuals more in a low redundancy condition because pictures are easier to absorb; seeing is easier than listening. So, when the two channels stand independent of one another, the viewer attends more to the visuals. This picture preference seems to be convincing evidence of the strength of the visual channel, and of the strength of the photo essay presentation, which relies heavily on the visual channel.

Hypotheses

Historically, research measuring information gain from TV news has focused on traditional ways of presenting the news. The focus of past study has been on the reporter narrative, to the exclusion of the visual channel and alternate auditory channels. The following study seeks to measure visual and auditory information gain from two modes of TV news story presentation: a traditional narrated mode and a video photo essay mode. Based on prior TV news research, two hypotheses are offered:

(H1) Auditory information gain will be significantly greater in a video photo essay mode of presentation than from a narrated mode.

(H2) Visual information gain will be significantly greater in a video photo essay mode of presentation than from a narrated mode.
It is hoped that the results of this preliminary study will provide a clearer understanding of the relationship between the visual and auditory components of TV news stories. Additionally, this research is aimed at establishing the video photo essay as a legitimate and memorable way of presenting the news.
CHAPTER 3

METHOD

Subjects

Subjects consisted of 52 undergraduate students from the University of Nevada, Las Vegas. Forty percent of the subjects were male, 60% were female. All subjects were taken from the same introductory Survey of Mass Communication class. Subjects were divided randomly into two groups of 26 each. One group viewed the narrated mode of presentation, the other viewed the video photo essay mode of presentation. Seventy percent of the subjects were between the ages of 20 and 29 years; none were over the age of 49. The average age of all subjects fell somewhere between 20 and 39 years. Fifty-two percent said they watched less than ten hours of TV news per week; 42% watched between 10 and 20 hours of TV news per week; and six percent said they watched more than 20 hours. Most subjects had completed between 12 and 16 years of education (79%). Forty-four percent earned less than $10,000 per year, 38% earned between $10,000 and $25,000 per year, the rest earned more than $25,000 per year. (Four subjects did not respond to the demographic questions, percentages are based on those who did).
Design

The experiment was conducted in a classroom setting and consisted of two television viewing sessions. The same newscast was shown to both groups of subjects, including identical anchors and lead-ins to the news items. One story called "Rhyolite Celebration" (a story about a community festival at an old Nevada ghost town) was presented in two different modes of presentation in each newscast: narrated mode and photo-essay mode. Narrated mode of presentation included four types of audio: reporter voice-over, natural background sound (nat-sound), sound bites, and music. In the photo essay mode of presentation, the audio was similar to the narrated mode except that there was no reporter voice-over. Both the photo essay and the narrated modes of presentation included the identical moving video cover footage (b-roll) and the same sound bites. After viewing, subjects were tested on information recall of only those visual and auditory elements that appeared in both versions of the Rhyolite story. The independent variable was mode of presentation (narrated vs. photo essay modes) and the dependent variables were (1) visual information recall, and (2) auditory information recall.

Procedure

Attempts were made to portray the newscast as a normal "on-air" television sample, and to bury the Rhyolite item within this sample. Through this method, the influential effects of the testing process on the subjects were minimized. The non-stimulus, "dummy" stories included in the newscast were taken from an hour-long news program that actually aired on local television several months prior, though their order and sequence were changed. Therefore, the possibility that some subjects may
have seen the original newscast some months prior probably did not influence recall of the Rhyolite item.

After taping an actual newscast at the studios of the local CBS affiliate, the same anchor was asked to introduce the Rhyolite story (that was later edited into the newscast that had just been recorded). Through this editing, the same introduction was used for both versions of the Rhyolite item. Furthermore, the anchor's clothing and appearance was the same for this "false" introduction. To further improve face validity, both the narrated and the photo essay treatments of the Rhyolite story were shot and edited by staff professionals at the same television station.

The subjects were tested and scored only on information gain from the Rhyolite story. Subjects were unaware of the researcher's intention to test them on the Rhyolite item until after the viewing sessions. Identical questionnaires were administered to all subjects following both viewing sessions (see Appendices I, II, & III).

Aided recall testing has become the preferred method of measuring information gain from television (by nature, multiple choice questioning lends itself to statistical analysis). However, earlier TV research used free recall questions to measure learning. Given the widespread use of free and aided recall testing in the study of television, the researcher decided to incorporate both into the present research. Subjects were first asked a free recall question to measure information gain from both the visual and the sound bite portions of the Rhyolite story. After this section of the questionnaire was completed, the free recall questionnaires were collected and subjects were given the aided recall exam questions. The aided recall
questions were divided into visual and auditory recall sections. The scores of both the free and aided recall sections were analyzed and presented separately.

As an aside research question, the researcher was interested to see if photo essay presentation had any effect on overall opinions and ratings of the story. For this reason, subjects were asked to rate the Rhyolite story along a bipolar, semantic differential scale using the following ten items: interesting, believable, enjoyable, clear, informative, likable, exciting, accurate, important, and true.

**Stimulus**

Each group of students saw the eight-minute newscast segment with a total of six stories per segment. Three of the stories were read live by the anchors on set with video covering them. One of the stories was read live by the anchor without video (talking-head reader). One of the stories was a taped package, with a field reporter providing the narration. The Rhyolite story was edited into the newscast later, and was presented in either narrated or photo essay mode. The subject matter of the news stories was as follows, presented in the following order:

1. Gore/Perot debate (reporter narrated package)
2. Pollution/smog levels (anchor read over video)
3. Baby car seat give-away program (anchor read over video)
*4. Rhyolite celebration (reporter narrated or photo essay)
5. New restaurant waiter paging system (anchor read, no video)
6. Film production on a TV ad begins downtown (anchor read over video)

**Instrument**

The free recall section of the exam consisted of one question asking the subjects to list all pictures, sounds, and verbal information they could recall from the
Rhyolite story. Some subject did in fact provide a list of the items they recalled, others presented the items in an essay format. Regardless of the format of presentation, similar types of items were identified in the free recall section of the exam. Two individual coders agreed upon the number of items recalled on all questionnaires. For the most part, items remembered were easily identified as people, places, and things; including buildings, clothing, music, colors, landscape, dates, weather conditions, or even direct quotes from the story. Each item recalled was given a score of one point. For example, many subjects remembered a boy selling newspapers for 50 cents each (in the Rhyolite item). On the other hand, others only remembered a boy selling newspapers. For this reason, the researcher deemed it necessary to score one point for each of the items remembered (one point for the boy, one for the newspapers, and one for the price of the paper). Scores were added together to create total free recall scores for each condition.

The aided recall section of the exam consisted of 24 multiple choice questions, each with five possible answers (including one "don't remember" option). In each instance there was one and only one correct response. The first 14 questions measured visual recall from the Rhyolite story, the remaining ten measured auditory recall. Prior to the experiment, two individual coders reviewed the aided recall questions and agreed that critical information needed to answer the questions correctly was presented in both stimulus conditions.

To measure subjects' opinions toward the two modes of presentation, the stories were rated along ten bipolar scales. (For example, subjects were asked to rate the Rhyolite items along a five-point scale between interesting and uninteresting). The ten adjectives were chosen to cover dimensions of evaluation that have been factored
out in previous studies (Drew & Cadwell, 1985). Finally, subjects were asked demographic questions pertaining to age, sex, weekly hours of TV news viewing, years of education, and annual income.

**Analysis**

Multiple choice questions were scored as either correct or incorrect. One point was scored for each correct answer, zero points were given to incorrect answers. Separate results were obtained for the visual and auditory recall questions; thereby creating final scores for aided, visual recall and for aided, auditory recall.

*T*-tests were performed to determine differences in mean scores for free recall, aided visual recall, aided auditory recall, and for each of the ten evaluated scales.
H1 predicted that aided auditory information gain would be significantly greater from a video photo essay mode of presentation than from a narrated mode. There was no significant difference in aided auditory recall between the two conditions. In fact, the average recall score was slightly higher for subjects who viewed the narrated version ($M = 5.81$) than for those who saw the video photo essay ($M = 5.62$), $t(50) = .36$, $p > .05$. Therefore, H1 was not supported.

H2 predicted that aided visual information gain would be significantly greater from a video photo essay mode of presentation than from a narrated mode. There was no significant difference in aided visual recall between the two conditions. However, the average score was higher for subjects who viewed the photo essay version ($M = 8.73$) than for those subjects who viewed the narrated news story ($M = 7.92$), $t(50) = -1.55$, $p > .05$. Thus, H2 was not supported.

The free recall question was included in this study as an aside to the main hypotheses (which predicted the outcome of aided recall questioning). As it turns out, the free recall question yielded significant results. In response to the free recall question, significantly more items were remembered by subjects viewing the photo essay mode of presentation ($M = 17.15$) than by subjects viewing the narrated mode of presentation ($M = 14.46$), $t(50) = -1.98$, $p < .05$. 
There also were no hypotheses offered to predict effects of narration on viewers' attitudes and opinions about a television news story. In both conditions, subjects were asked to rate the Rhyolite story along 10 five-point scales using bipolar adjectives (interesting and uninteresting, believable and unbelievable, enjoyable and unenjoyable, clear and unclear, informative and uninformative, likable and unlikable, exciting and unexciting, accurate and inaccurate, important and unimportant, true and untrue). T-tests revealed no significant difference between the narrated and photo essay conditions for any of the ten items. However, the photo essay version was rated more favorably on eight of the ten scales. For the "clarity" scale, the photo essay story was rated exactly the same as the narrated story. On the other hand, in terms of "importance," the narrated version was rated higher.
CHAPTER 5

DISCUSSION

The results of this study should be regarded as preliminary, given the relatively small number of subjects (26 in each test group). Still, some general conclusions and areas for future research are suggested. Mode of presentation seems mostly to affect the free recall of information from television news stories. Subjects who viewed the video photo essay freely remembered significantly more items than those who viewed the narrated version. Though free recall testing has historically yielded lower recall levels than aided testing, open-ended questioning remains a valid method for measuring the effects of presentation on the viewer. Subjects' overall impression of a news item may be drawn from free recall testing and viewer preference for certain types of sounds and images becomes apparent.

In this study, individual visual and auditory items were not coded in advance for scoring the free recall questions. The types of items commonly recalled included singing and music, flamboyant language and quotes, colorful costumes, historical dates, and actions of characters in the story. As might be expected, the more out-of-the-ordinary the item, the more likely it was freely recalled by viewers. For example, subjects freely remembered visual items like the "red light district" of the town, the "crumbled buildings," and the "house built out of liquor bottles." Auditory items freely recalled included "banjo music" or direct quotes like "the people who lived in
Rhyolite thought the town would last forever." Sometimes they remembered combinations of auditory and visual elements. For example, one person recalled "an old lady singing Amazing Grace." In short, interesting visual and auditory information was recalled better across both conditions. Overall, it appears the video photo essay mode of presentation made a greater short-term impression on the subjects than the narrated version of the story. While significantly more items were remembered freely by viewers who saw the photo essay version, this difference disappeared once subjects were cued in the multiple choice section of the exam. Whatever advantage the photo essay had in sparking free recall was erased once subjects were reminded of what they just saw. This finding seems to substantiate the inadequacy of free recall testing. Clearly, certain items were stored in the memory of subjects, but were not recalled until cued in the multiple choice section of the exam. Nevertheless, the photo essay presentation has a clear advantage in making an impression on the viewer; an impression that is easily and freely remembered. People find the sounds and images within a photo essay more memorable. More research is needed to determine the reasons why this preference is established in the viewer.

H1 and H2 predicted that recall would be higher in the photo essay condition for both auditory and visual information, respectively. As noted, there was no significant difference between the two conditions in aided recall from the Rhyolite story for either auditory or visual information. To ensure validity of the experiment, both the photo essay and the narrated presentations were tightly controlled in terms of content. The same shots were used in both versions, the same sound bites, music and natural sound. The only difference was the presence, or lack of, narrative voice-over. Of course, in an actual newscast the differences between any two given news
stories are infinite (in content, production quality, story length, or pacing, for example). These differences may make photo essays more or less memorable in a real life situation. The similarity of the two conditions in this experiment may have led to similar results in the aided section of the exam. Both photo essay and narrated modes of presentation were equally successful in conveying memorable auditory information.

In past research, the reporter narrative has been regarded as the primary carrier of information to the viewer. Results of this study establish the video photo essay as equally legitimate in presenting auditory information.

While aided auditory recall was virtually identical across the two test groups, there was a greater difference between aided visual recall scores. While this difference was not significant, subjects did remember more visual items from the photo essay story than from the narrated story and the results were close to significant. These results support earlier research indicating viewers attend primarily to the verbal channel of communication during a traditional, narrated news story at the expense of the visual channel (Drew & Cadwell, 1985). Memory of visual information indeed may be inhibited by attending to the verbal narrative, resulting in lower visual recall scores for subjects viewing a narrated news story. On the other hand, subjects viewing the photo essay presentation were not distracted by the reporter voice-over and therefore remembered more visual information. Future research should expand the number of identifiable visual elements in the story, precisely identify these elements through pretesting, and test for recall of the visual channel across two conditions using a large number of subjects and questions. Still, this study’s findings clearly establish the video photo essay as a legitimate way of presenting television news stories. In all areas, photo essay presentation proved as memorable as narrated news
stories; and in some circumstances, the photo essay does a better job of communicating memorable information to the audience.

Along bipolar scales, subjects rated both photo essay and narrated versions of the news story, indicating no significant difference in individual categories. In nine of ten categories, however, the photo essay version received equal or higher ratings. In one category (importance) the narrated version did score higher. Viewers are understandably familiar with the narrated format of news presentation and perhaps they feel the mere presence of reporter voice-over legitimates the event as newsworthy. On the other hand, the photo essay was found to be slightly more interesting and exciting than the narrated version. Subjects also found the photo essay more likable and enjoyable. In short, the video photo essay received better overall opinion ratings than the narrated news story. The differences in rating scores along the bipolar scales are small. Future research may determine the effects of photo essay presentation on viewer interest in television news stories.

Limitations and Possible Threats to Validity

Format differences between the photo essay and the narrated story make control of variables difficult. Without reporter voice-over to make transitions between interview sound bites, the photo essay inherently uses more natural sound and music bridges to link the interview sound. Researchers must take these format differences into account when testing for information recall across different conditions. Subjects should not only be tested on those elements that appear in both versions of the presentation but on those elements that appear identical. Length of shot, duration of music or natural sound, and differences in audio level are some of
the less obvious differences that may affect later recall in viewers. Keeping control of variables as tight as possible, given the inherent differences in presentational format, is the only way to clearly identify the source of recall differences.

Some may question the validity of the classroom setting as a legitimate arena for testing recall of television programming. In order for this research to be applicable to the general public, it would be preferable to conduct it on subjects in real-life settings, who reflect the real-life demographics of the television viewing audience. While college students may not accurately reflect the general population per se, they do make for a convenient, controllable research sample. Variables that occur during real-life television viewing are exceedingly uncontrollable. Likewise, the presentation of two distinct and empirically sound stimulus conditions would be difficult (though not impossible) in a home situation. The findings of this study should be regarded and preliminary and future researchers should seek to increase the number of subjects in the sample.

Scoring free recall questioning is another source of validity problems for television effects research. Thorough pretesting and coding is necessary to clearly define separate and distinct items in both conditions. Future researchers may find it useful to separately code visual and auditory items before testing for free recall of those items. Judges might use storyboards that detail the major characteristics of the video script to separate and code individual visual elements. To assure reliability in the division of auditory and visual elements, judges should reach close to 100% agreement on total number of units (Martin & Ditcham, 1987).
Suggestions for Future Research

More research is needed to determine the effects of other methods of TV news presentation. In 1985, Drew and Cadwell looked into the effects of jump-cut editing on recall of news information. Various types of production techniques are commonly used in presenting the news, though the effect on memory is not clearly known. The use of natural sound as a research variable, for example, might have profound effects on visual recall. (Frequently, video b-roll is used to cover an on-set anchor read; but only occasionally does that video footage have natural sound associated with it). Similarly, one might isolate the use of music as an empirical variable. Other production variables include: type of transition between shots (cut, dissolve, or wipe), male versus female voice-over, use of superimposed words and graphics, or black & white versus color cover footage. Any of these variables, adequately controlled, provide fertile ground for future study and may affect learning from television news.

This preliminary study was limited by the number and demographics of the students who viewed the newscasts. In order for television research to be applicable to the general public, researchers should seek a subject sample that approximates real television viewing audiences. Future research might look at older populations, for example, and compare recall scores to those of younger subjects. Past research indicates that age, education, and income can affect learning from television news (Edwardson et al., 1981). Comprehensive, comparative analysis of demographic information might reveal how mode of presentation affects audience members with certain characteristics.

Researchers should also look at expanding types of stimuli. Television news stories are as diverse as the people watching them. Past research has shown that
content does play an important role in the recall of TV items (Edwardson et al., 1981). Other content-related variables which could affect television news recall might include: the relative news worthiness of the story, the viewer's perceived interest in the story topic, or the political views expressed in the story.

Free recall is one of those areas where the scoring of results can become subjective if strict rules of grading are not followed. In the present study, no effort was made to separate auditory and visual items from the free recall responses. Since the video photo essay seems to affect free recall significantly, future researchers may wish to clearly define the types of items freely remembered. The line between auditory and visual recall can sometimes become blurry, especially in subjects' responses to free recall questioning. The only way to eliminate bias in the scoring process is through pretesting. One must clearly identify the visual and auditory elements in the story and how they will be counted later.

Application of Research Findings

The use of video photo essays in daily newscasts is sporadic and is not considered a mainstream way of presenting important news stories to large audiences. Given the results of this research, one might ask "why?" One answer may lie in the politics of the news room. For decades, the traditional news story has been produced by two people, a team of camera person and reporter. With today's modern news gathering equipment, photo essays can be produced and edited by one videographer. Slowly but surely, "one-man bands," as they are called, are replacing the reporter-videographer team. The threat of the one-man band to the traditional role of the reporter is awesome. Veteran field reporters eventually may have to learn how to use
camera and editing gear or get out of the news business altogether. Likewise, seasoned videographers will have to learn the role of reporter in order to survive professionally. Alternative ways of producing news stories shake the established structure of the news department to its foundation. The video photo essay as a mode of presentation is a constant reminder to television journalists of the inevitable changes taking place within the structure and format of television news.

The photo essay uses alternative means of advancing narrative story lines, while traditional news stories use reporter narrative to tell the story. Since the auditory channel has historically been regarded as the primary carrier of information, low recall of visual information has been regarded as an acceptable evil. Results of this study show identical auditory recall across both conditions, while at the same time increasing free recall and visual recall in the photo essay condition. This preliminary research indicates photo essays are capable of conveying the same important auditory information to the viewer, without reducing information gain from the visual channel. In an industry that strains to convey as much information as possible to its viewers, television professionals cannot afford to ignore this powerful mode of presentation. Alternative ways of presenting the news have the potential to attract new, diverse audiences more comfortable with new ways of following television narratives. The video photo essay seems to be one of those rare alternatives that fits the present television news format, while expanding the horizons of viewer memory and information recall.
APPENDIX I

PROCTOR INSTRUCTIONS

1. Read "Consent Statement" to group.

2. View 8 minute newscast.

3. Hand out questionnaires.

4. Read the following statement:

   "At this time, please read the instructions and answer question one only. After you finish with question one, STOP; rip off the top page with your answer on it and hand it in. Do not go on to the next section until instructed to do so. You may now begin on question one. There is no time limit."

5. Part one of the questionnaire consists of the first question only. After students have completed question #1 they must stop and wait for everyone to finish.

6. After all the top pages have been handed in, tell the students they may begin on part two of the questionnaire, (there is no time limit).
APPENDIX II

CONSENT STATEMENT

You are being asked to participate in a research study as part of a graduate thesis program. Through this research, we hope to learn more about the recall of television news programming. The research consists of two study groups, you and one other group of students. Each group will view an 8 minute newscast. The content of the newscast will be different for each group. Following the newscast, you will be given a questionnaire. The questionnaire is not a test. There is no grade, and you do not have to put your name on it. Some questions, such as your age and sex, will be asked for research purposes, but you will remain anonymous at all times. The results of this research may be published at a future date, but no names will be ever be used.

Please follow the directions on the questionnaire and do your best to answer all the questions. If you do not want to participate in this research, or feel that your participating would somehow bias the results, you may decline to participate at any time.

The proctor is not allowed to answer any other questions about the research until all the questionnaires are completed and handed in. Please watch the following newscast as you would any other television news program. After the viewing session, the questionnaires will be handed out. There is no time limit for completing the questionnaire.
APPENDIX III

QUESTIONNAIRES

Part One (Free Recall)

Instructions: The following question is concerned with what specific information you can remember from the story about the town of Rhyolite. Please do your best to answer the question as completely as possible. There is no time limit. Answer question #1 now, but DO NOT GO ON TO THE NEXT SECTION until you are instructed to do so.

1. Please list any information you can remember from the Rhyolite story you just viewed. Include all pictures, sounds, and verbal information you can recall. If you need more room, use the back of this page.

STOP!
DO NOT GO ON TO THE NEXT SECTION UNTIL INSTRUCTED TO DO SO.
Part Two (Aided Recall)

Instructions: The following questions are concerned with what specific information you can remember from the story about the town of Rhyolite. There is one and only one correct answer for each question. Please check the correct answer. If you don't remember the correct answer, check "don't remember". There is no time limit.

1. Of the following buildings, which one was seen in the Rhyolite story? Check one:
   (    ) A chapel
   (    ) A jail
   (    ) A schoolhouse
   (    ) An outhouse
   (    ) Don't remember

2. Who was seen on main street in the town of Rhyolite? Check one:
   (    ) A newspaper boy
   (    ) A prostitute
   (    ) A blacksmith
   (    ) A town drunk
   (    ) Don't Remember
3. In the Rhyolite story, what type of day did it appear to be? Check one:
   ( ) A cloudy day
   ( ) A rainy day
   ( ) A foggy day
   ( ) A sunny day
   ( ) Don’t remember

4. The woman interviewed in the Rhyolite story was wearing what color hat? Check one:
   ( ) A pink hat
   ( ) A green hat
   ( ) A turquoise hat
   ( ) A yellow hat
   ( ) Don’t remember

5. You saw a shot of a white door in the Rhyolite story. What happened to the door? Check one:
   ( ) It was slammed shut by a miner
   ( ) It was slammed shut by a woman
   ( ) It was swung open by the wind
   ( ) It was locked by a sheriff
   ( ) Don’t remember
6. Fill in the blank with the correct answer. It appeared that the town of Rhyolite was _______. Check one:

(  ) Located on a mountain top.
(  ) Located in a valley.
(  ) Located next to a river.
(  ) Located in a forest.
(  ) Don't remember

7. There was a ceremony taking place in Rhyolite. What was that ceremony? Check one:

(  ) A funeral
(  ) A wedding
(  ) A church service
(  ) A baptism
(  ) Don't remember

8. Approximately how many structures were in the town of Rhyolite? Check one:

(  ) Less than 20.
(  ) Between 20 and 50
(  ) Between 50 and 100
(  ) More than 100
(  ) Don’t remember
9. There was a shot of a man smoking something in the Rhyolite story. What was he smoking? Check one:

( ) A cigar
( ) A cigarette
( ) A pipe
( ) A joint
( ) Don't remember

10. There was a house built of bottles shown in the Rhyolite story. What color were the bottles? Check one:

( ) Light blue
( ) Faded pink
( ) Dark brown
( ) Dark red
( ) Don't remember

11. In the Rhyolite story, some men were engaged in an activity around a table. What were they doing? Check one:

( ) Writing letters
( ) Rolling dice
( ) Playing cards
( ) Arm wrestling
( ) Don't remember
12. In the Rhyolite story, what was right next to the bottle house? Check one:

( ) A baby's crib
( ) A fountain
( ) A police car
( ) A well
( ) Don't remember

13. Fill in the blank with the correct answer. The buildings in Rhyolite were_______.

Check one:

( ) Newly built
( ) In a state of decay
( ) Built with Spanish roofs
( ) Built with white stucco walls
( ) Don't remember

14. What type of vehicle was seen on Rhyolite's main street? Check one:

( ) A horse drawn carriage
( ) A police car
( ) A fire engine
( ) An antique car
( ) Don't Remember
15. A woman was singing in the Rhyolite story. What song was she singing? Check one:

( ) The Star Spangled Banner
( ) Down by the Riverside
( ) Home on the Range
( ) Amazing Grace
( ) Don't remember

16. According to the woman interviewed in the Rhyolite story, how long did the town last in Nevada history. Check one:

( ) 6 years
( ) 12 years
( ) 18 years
( ) 24 years
( ) Don't remember

17. Fill in the blank with the correct answer. The people of Rhyolite thought _____.

Check one:

( ) They were the best people in Nevada
( ) Rhyolite was haunted by a ghost
( ) Rhyolite would last forever
( ) Rhyolite would always be a Mormon town
( ) Don't remember
18. In the story, how much did the Rhyolite newspaper cost? Check one:
   ( ) 5 cents a copy
   ( ) 25 cents a copy
   ( ) 50 cents a copy
   ( ) 75 cents a copy
   ( ) Don’t remember

19. What was the name of the Rhyolite newspaper? Check one:
   ( ) The Rhyolite Herald News
   ( ) The Nevada Examiner
   ( ) The Rhyolite Gazette
   ( ) The Union Press
   ( ) Don’t remember

20. Who was the man who wrote the Rhyolite newspaper? Check one:
   ( ) Mr. Hal Howard
   ( ) Mr. Rudy Eastman
   ( ) Mr. Earl Clemens
   ( ) Mr. Frank Longfellow
   ( ) Don’t remember
21. What was the population of Rhyolite? Check one:
   ( ) Population twelve hundred
   ( ) Close to 5,000 people
   ( ) Upwards of ten thousand people
   ( ) Round about 25,000 folks
   ( ) Don't remember

22. Fill in the blank with the correct answer. The people of Rhyolite were described
    as______. Check one:
    ( ) "Loners"
    ( ) "Colorful"
    ( ) "Religious"
    ( ) "Friendly"
    ( ) Don't remember

23. Fill in the blank with the correct answer. The woman interviewed in the Rhyolite
    story described the Rhyolite history as______. Check one:
    ( ) "A religious revival"
    ( ) "Politically turbulent"
    ( ) "Artistic and cultural"
    ( ) "A beautiful tapestry"
    ( ) Don't remember
24. Which of the following is a direct quote from the Rhyolite story? Check one:

(  ) "Roses are red, violets are blue, the city of Rhyolite is waiting for you."

(  ) "A family town of God-fearing people make up the city of Rhyolite."

(  ) "Pack up your belongings, come to the rich state of Nevada, and make your fortune in Rhyolite."

(  ) "Birds of a feather, flock together; the smart ones are coming to our fair city of Rhyolite."

(  ) Don't remember

25. How would you rate the Rhyolite story in terms of the following criteria?

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</table>
Please answer these demographic questions for research purposes only. Your identity will remain anonymous.

1. How old are you?
   ( ) Under 20
   ( ) Between 20 and 29
   ( ) Between 30 and 39
   ( ) Between 40 and 49
   ( ) 50 or older

2. What sex are you? (circle one): male female

3. Approximately how many hours of television news do you watch per week?
   Check one:
   ( ) Less than 10 hours
   ( ) Between 10 and 20 hours
   ( ) Between 21 and 50 hours
   ( ) Between 51 and 100 hours
   ( ) More than 100 hours
4. How many years of education have you completed?
   ( ) Less than 12
   ( ) Between 12 and 16
   ( ) Between 17 and 20
   ( ) More than 20

5. What is your approximate gross annual income (before taxes)? Check one:
   ( ) Less than $10,000 per year.
   ( ) Between $10,000 and $25,000 per year.
   ( ) Between $25,001 and $50,000 per year.
   ( ) Between $50,001 and $75,000 per year.
   ( ) More than $75,000 per year.
REFERENCES


