

EFFECTS OF  
DISCOURSE FORCE, SENTENCE IMPORTANCE, AND CLAIM TYPE  
ON COMPREHENSION AND RECOGNITION

by

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Abstract



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Studies of discourse have not resolved the question of whether different types of texts are comprehended and remembered differently. To clarify this question the present study used three print message forms (business memoranda, personal letters, and newspaper advertisements) used in other studies. Direct assertions and pragmatic implications were embedded in constructed messages. The stimulus sentences were independently rated as more important or less important to the message. Subjects rated truth-value while reading and again in a recognition task. Results indicated that the form in which the message appeared, the claim type in which the sentence was written, and the importance of the sentence to its text influenced truth-value ratings. The commonly held notion that people do not believe advertising was evident when subjects were reading. Results suggest that studies of message miscomprehension need to account for how subjects perceive the intention of the writer and how this perception influences the inferences readers make about the message.

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Cognitive theorists have generally agreed that people actively process information. For example, while reading, people often expand upon the information directly stated by the text (Seifert, 1990). However, definitions of text comprehension have acknowledged that miscomprehension also occurs (Jacoby & Hoyer, 1987). Identifying miscomprehension has become increasingly pertinent to theories of communication, particularly with relevance to legal actions involving persuasive communications (Richards, 1990). In addition, Richards stated that the issue of legality necessarily involves the assessment of beliefs which are held by the consumer, but that comprehension might be significantly different from belief. Therefore, the relationship between the comprehension of information, memory of information, and belief formation needs to be specified.

Studies of readers' comprehension and miscomprehension of message types by Preston (1967) and by Preston and Scharbach (1971) revealed that subjects often attributed information to advertisements which had not been directly stated or logically implied by the text. However, several questions were left unresolved by these two studies.

This paper presents a study designed to clarify their findings. First, however, the original studies (Preston, 1967; Preston & Scharbach, 1971) are presented. Then, the questions which were raised by them are examined,

accompanied by results from relevant studies in related areas. Lastly, the rationale for the present study is presented.

The present study expanded Preston and Scharbach's basic experimental approach. The results from this study provided evidence to support Preston and Scharbach's conjecture that people consciously discount perceived advertising content while being unaware that they also tended to expand the information.

#### Literature Review

Two studies provided the base research for the study presented by this paper. Since the second extended the first they are both presented here. The Preston (1967) study investigated how accurately people read actual full-page magazine advertisements. An advertisement was used for the treatment condition if researchers determined that it "brought to mind" illogical statements about what was stated in the ad. The experimental set of ads used for the study was compared to a control group of randomly selected ads.

The results showed that subjects agreed 65.3% of the time that a statement was an accurate restatement (paraphrase) of what the advertisement stated when the test statement was actually logically invalid with respect to the advertisement's actual content. However, the subjects maintained that the advertisements did actually "say" those things; not literally, but in the sense that they believed

that the logically invalid statements represented accurately what the advertiser intended to convey about the product. For example, a spark plug ad stated that A.J. Foyt and other Indianapolis 500 winners choose Champion spark plugs. The invalid conclusion from this ad was that Champion spark plugs must also be the best to use in the cars that most people drive. When subjects indicated that they did draw this conclusion from the ad, Preston attributed the error to the readers' faulty reasoning processes.

Based on their responses, Preston surmised that his subjects may have had a perceptual set particular to advertisements, suggesting that people might adopt a certain type of processing procedure when reading advertisements which was different than the one used for reading other types of messages. This would have explained why the subjects perceived the ads as "saying" what the advertiser really wanted to convey. One point raised by Preston addressed whether responsibility for the illogical behavior rested with the advertiser who was responsible for the structure of the message or with the reader who responded to the message in a particular way.

To further investigate the hypothesis that people might have different processing strategies for reading different types of messages, Preston and Scharbach (1971) replicated the 1967 study but expanded the types of messages which they presented to subjects to include news stories, personal

letters, and business memoranda, as well as magazine advertisements. To examine the effect of message type, the text of the advertisement was reconstructed as each of the other message forms. Each subject saw only one of the four forms using a particular text. In some cases this required rewording of the original material and inclusion of additional material to maintain face validity, although the authors stated that the ideal test would have been one in which the wording did not have to be changed. Subjects were presented with a booklet containing twelve messages with test statements accompanying each. Results of this study showed that subjects accepted as accurate the logically invalid statements for the advertisement form significantly more often than they did for the other message forms.

In comments on a post-experimental questionnaire, subjects expressed willingness to expand on the explicit meaning in ads because they perceived advertising to be a message which calls for a particular cognitive "response" on their part. Therefore, the subjects responded according to their individual beliefs and prior knowledge about the persuasive intent and goals of advertising. Based on the subjects' comments, Preston and Scharbach hypothesized that, rather than behaving unreasonably, subjects in experimental settings may have been responding to what they perceived to be sensible expectations about the purpose of advertising messages.

The authors concluded that their subjects, like those in the 1967 study, might have been processing advertising using a set of expectations different from ones they used to process other types of text. Further, the authors supposed that people, although reporting that they discount the statements made by advertisements, may in fact expand on perceived advertising content. One explanation of this proposed by the authors was that the discounting occurred during high message awareness while the expansion occurred during low message awareness, that is, at an unconscious level.

The findings from these two studies indicated that several variables needed further investigation in order to clarify the factors involved in ad comprehension and memory which might account for the subjects' comments. For example, subjects in the Preston and Scharbach study responded based on their perception of what the advertiser "meant to say." Therefore, one factor contributing to the illogical thinking by Preston's subjects may have been the subjects' perception that the purpose of an ad is to persuade, compared to the other message forms--personal letters, memos, and editorials--which may be entertaining or informative.

In addition, three other factors might have influenced Preston and Scharbach's results. One was the peculiar characteristics of the real magazine ads on which the

researchers in the Preston (1967) study based their selection of stimulus materials. For example, ads in the deliberately-chosen group were considered usable if they brought to mind a favorable product statement which was not included in the ad or a valid derivation from what was stated in the ad, but which could be mistaken for something which was included in the ad. However, because they recognized that the set of deliberately chosen ads was biased, a random set of advertisements was also included in the study. Comparison of the deliberately-chosen and the random groups showed that a difference existed between the biased and random sets. When the two sets were compared, their subjects said the invalid statement was an accurate restatement of what the ad actually said significantly more often for the deliberately-chosen ad set than for the randomly selected ad set. In addition, the author stated that writing test sentences for the randomly selected group of ads was more difficult than for the purposefully selected group. This indicates that some types of salient characteristics might have been more apparent when the deliberately-chosen groups of ads were selected.

These characteristics for selection of the biased group may have been some of the several types of text characteristics which advertisers rely on and which have since been identified (Harris, 1977; Harris, Dubitsky, & Bruno, 1983; Harris, Sturm, Klassen, & Bechtold, 1986;

Kamins & Marks, 1987; Richards, 1990; Searleman & Carter, 1988; Snyder, 1989). For example, the juxtaposition of two imperatives implies a causal relationship (Harris et al, 1986). For example, Lose ten pounds in ten days. Buy Omega vitamins. invites the reader to draw the inference that a person will lose ten pounds in ten days by using Omega vitamins, although this is not directly stated by the ad nor is it a necessary inference. Similarly, omitting the comparative for the product invites the reader to interpret beyond what was stated by the sentence (Harris et al, 1986). For example, Women who use Mojave Mudpack are more beautiful. invites the reader to complete the comparative by adding the standard with a comparison which would be plausible but which might not be the most accurate. For example, completions such as "Women who use Mojave Mudpack are more beautiful than other women." or "than women who use other products." might be more plausible but "Women who use Mojave Mudpack are more beautiful than a sand crab." might be more accurate.

Another factor also potentially may have influenced their results by intruding during the ad selection and test statement construction. The magazine ads were selected to be included in the stimulus ad sets based upon the ease with which test statements could be generated from the ad's text. It was not clear whether the sentence in the text which was selected to be used as a target to test the subjects carried

information which was important or unimportant to the overall stimulus text (see Goetz & Armbruster, 1980). The selection of the sentences were based on how easily test statements could be generated which were favorable to the ads' product but which were not directly stated by the text. If so, the test sentences for the ads used in the study were probably based upon the information important to the ad's message. In the case of advertisements, the information pertinent to the product's presentation and description is material to the message and everything else is not (Jacoby & Hoyer, 1987). Since a subset of the ads selected for the Preston study was used to generate stimuli for the Preston and Scharbach study and since some reconstruction of the ad text was necessary to create the different message forms used in their study, it is not clear whether the important information in the ads remained as important information in the other message forms which they used.

The importance of information to the overall purpose of the text has been found to affect allocation of readers' attention which in turn affects processing (Meyer, 1985). Ideas which are more important generally receive more attention. Research has shown that more important information generally gets more attention and affects the probability that the information will be integrated (Wintermantel & Siegerstetter, 1989). Brewer and Nakamura (1984) stated that the assumption is one of increased

attention which results in a stronger memory trace. Wintermantel and Siegerstetter also support this view that the effect on memory is directly proportional to the information's level of importance in the text hierarchy, that is, information higher in importance is more easily committed to memory. Therefore, studies which use constructed context should consider the importance to the stimulus information relative to the text in which it appears.

Finally, the fourth factor which may have influenced the Preston and Scharbach results was the type of response task used. Preston and Scharbach speculated that consumers initially discount but also tend to expand on ad information. Their study did not examine differences in response tasks. However, the earlier Preston study found no difference between subjects who responded to the test statements while reading the ad and those subjects who responded after reading the ad without referring back to it.

The following sections examine studies relevant to three issues which were not directly addressed by the Preston and Scharbach (1971) study: the perceived purpose of the message, characteristics of sentences within the message, the importance of information carried by a sentence relative to the text in which it appears. Two types of response tasks were used.

### Perceived Purpose

As a result of the Preston and Scharbach findings, the overriding issue seemed to be whether subjects did adopt a particular processing strategy for processing advertisements based on their prior knowledge about the purpose of advertising. The idea that readers use specific processing strategies for processing different types of information is not new. Studies have routinely assumed that this is the case (Harris, Trusty, Bechtold, & Wasinger, 1989; Ha & Hoch, 1989; Wyer, Srull, Gordon, & Hartwick, 1982).

Further, research has generally acknowledged that receivers of messages do adopt some method to organize incoming information (Hunt & Agnoli, 1991). For example, in studies manipulating type of discourse, results suggested that subjects may have been using different rules for processing advertising compared to other types of discourse (Dubitsky & Harris, 1980; Jacoby & Hoyer, 1987; Kirmani & Wright, 1989).

Activation of processing strategies. Important to the study of strategies was identification of the stimulus which initially activated the strategy used by the receiver of the message. Preston and Scharbach's subjects claimed that their strategies were based on what they perceived to be the intent of the message. In other words, the perceived intent of the message primed a particular strategy for processing that message.

The concept of perceived intent was described by Brewer (1980) as the purposive nature of discourse. He proposed a systematic method of categorization for linguistic structures using two characteristics of discourse: discourse type and discourse force. Texts classified according to their discourse type used as the defining characteristic the cognitive structure underlying the information presentation: description, narration, and exposition.

However, more important to this study is discourse force, the second characteristic in Brewer's model. The model defined a set of goals that described the purpose which the writer intended to achieve with the text and how that purpose was perceived by the reader. This idea of perceived purpose Brewer labeled discourse force. Each discourse type could be classified by its force, depending on whether the message was intended to persuade, inform, entertain, or to provoke a "literary-aesthetic response". For example, a narrative passage could be written to be persuasive or to entertain. However, although the author may have written the message with the intent to produce a particular response in the reader, for a particular text, the actual discourse force occurs in the reader. Ultimately, what the reader perceives the writer's intent to be determines the text's force.

In sum, assuming that readers in these two studies (Preston, 1967; Preston & Scharbach, 1971) adopted

strategies for processing which could be activated by a variety of stimuli, it appeared that the subjects in the Preston study attended to the persuasive intent of the ad messages and this perceived intent served to prime subjects' processing strategies. Post hoc reports from the Preston and Scharbach subjects suggest that this was true in their case.

Prior studies of discourse force. Several studies have examined the influence of text type and force on the reader's processing of discourse. However, none of the studies provided conclusive evidence that subjects' perception of discourse force was responsible for the differences in processing which the Preston and Scharbach subjects admitted applying to advertisements.

One study, for example, by Dubitsky and Harris (1980) manipulated the discourse type while holding semantic content constant across the message types of description, narration, and advertisement. Results of a memory test for factual information showed that subjects had fewer correct scores for advertisements than for either descriptions or narrations when presented in text form. In addition, subjects rated the ads highest for perceived difficulty but lowest for persuasiveness and passage interest.

The focus on manipulation of discourse type may have resulted in the ambiguous results. The study employed advertisement as a discourse type when, according to

Brewer's classification, advertisements suggest a persuasive force. Therefore, the manipulation confounded discourse type and force. The results imply that discourse force may have been more influential than discourse type. Results may also have been ambiguous because of the necessary rewriting of the stimuli to manipulate message form while holding semantic content constant. For example, the first sentence in a paragraph introducing information about a village varied in the following manner: The ad stated, "Except for the presence of cars, this village of 100-200 sturdy Welsh men and women looks about the same way it did over a century ago." The description stated, "Penmachno is a small village of 100-200 people in North Wales, located two miles off Highway A5." The narration stated, "Upon approaching it, I could see immediately that Penmachno itself was an unassuming little village of perhaps 100-200 people in the lush green valley in North Wales." Changes in the wording style may have influenced subjects' responses in subtle ways.

In a second study manipulating discourse force and using fables, folktales, and parables as message types (Dubitsky, Harris, Sanders, Betzen, & Bunton, 1982), only the introductory paragraph conveyed the manipulation while the text following was held constant across groups. Results showed no evidence for an effect of the manipulation on memory for true, false, implied, or indeterminate

information. Significant differences did appear in subject's evaluative ratings of passage informativeness and interest which indicated that the manipulation had some impact on subjects' judgments. However, the results were again confounded by discourse type and force. Although the study was designed to manipulate discourse force while holding content constant, it is unclear whether the subjects perceived the texts differently than the experimenters intended. The fables, parables, and folktales were all narrative discourse types but, according to the Brewer classification, fables and parables attempt to persuade while the folktales are generally entertaining. Therefore, the manipulation of an introductory passage may not have been effective. This suggests that subjects' perceptions of discourse force need to be assessed for the messages used in studies of comprehension.

Another study manipulating message forms was conducted by Jacoby and Hoyer (1987) which investigated miscomprehension using advertising and nonadvertising messages. Subjects were given a true-false quiz which used paraphrases of the main claims in magazine advertisements and magazine editorials as test items. Results demonstrated that editorial communications had a higher rate of miscomprehension than did advertisements. Although not significantly different, inferences in ads were remembered better than facts from editorials.

Results of the Jacoby and Hoyer study were not conclusive, however. The authors pointed out that the miscomprehension rate for editorials might have resulted because the editorials were not self-contained units but were each lifted from different and larger editorial pieces, whereas the advertisements were used with the verbal and graphic information intact. Therefore, content necessary to fully comprehend the editorial pieces may have been omitted.

Also, according to Brewer's classifications the Jacoby and Hoyer study did not manipulate discourse force, since both ads and editorials have persuasive force, making it more likely that subjects processed both ads and editorials using similar strategies. This might account for the failure of the Jacoby and Hoyer study to find a significant difference between the miscomprehension of ad and non-ad materials.

In addition, studies of consumer information processing (Shanteau, 1988) have proposed that visual information, such as a picture of the product, is processed before verbal information. Based on this, it may be that subjects use visual information to aid in identifying a message's intent. Therefore, visual information might serve to prime a particular processing strategy even before reading the text has begun. Print and television advertisements in particular rely on visual information. Prior studies of discourse force and message types which did not incorporate

visual information into the texts presented to subjects may have forced subjects to discover the intent of the message as they read the text, resulting in a weak effect. Therefore, a study of discourse force using print ads needs to cue the subjects with nonverbal information before they begin to read the text.

In sum, none of these studies provided conclusive evidence to support the contention that the readers of advertisements in the Preston and Scharbach study actually adopted processing strategies unique to the type of text being read. However, in the studies cited above, results have suggested some differences in text processing based on discourse differences. The studies may have just been ineffective in priming specific strategies for processing ads when the discourse force was confounded with discourse type. On the other hand, if subjects do use discourse force as a prime, then when it is effectively perceived significant differences in processing should appear between texts perceived as having different discourse forces.

One purpose of the present study was to investigate whether readers do, in fact, process advertising differently from other types of text. It was predicted that subjects would process text based on the particular strategy which was primed by the discourse force of the message. If Preston and Scharbach are correct, subjects should have been more willing to expand on text ("filling in what the writer

meant to say") when the text clearly presented a persuasive intent.

This notion of expansion on what is explicitly stated has been conceptualized by Siefert (1990) and others (see Rossiter & Percy in Harris, 1983) as an instrumental type of covert cognitive and elaborative verbal response. The nature of the response is based on knowledge of what has worked in past similar situations. Past knowledge is used to decide the meaning of the current situation or stimulus.

Therefore, based on the subjects' expectation that ads required a particular cognitive response, it was supposed that subjects would be less critical of this type of text. If so, subjects were expected to expand on persuasive texts and rate information in ads as more true compared to the other types of texts.

#### Text Characteristics

In addition to the perceived purpose of the text, a second issue in the Preston and Scharbach study which needed clarification is the examination of the text characteristics in selected stimulus ads. Since discourse comprehension is a product of the interaction between what is included in the text and whatever knowledge the reader brings to the task, responsibility for comprehension and miscomprehension has been assumed to rest with the reader (Richards, 1990). Therefore, the unique sentence constructions and claim types often employed in ad texts and which have been shown in

other studies to invite elaboration by readers may have influenced subjects' illogical thinking in the Preston and Scharbach study. Preston's selection criteria to identify useful stimulus ads was based on whether the ad brought statements to mind which favored the product, were not included nor did not logically follow from the ad but likely to be mistaken for what was included in the ad (Preston, 1967).

These criteria suggest that perhaps the ads in the Preston studies were selected based on one or several identifiable characteristics. One characteristic of advertising is a reliance on subjective and evaluative claims (Burke, DeSarbo, Oliver, & Robertson, 1988). These claims can be literally true; however, they can also create an impression of product performance which is either inconsistent or untestable. For example, the claim that Ache-away gives the fastest pain relief possible. implies that no other brand of pain reliever gets rid of pain faster than Ache-away. However, all brands may be equally fast.

Also, abundant evidence has accumulated which has shown that readers often supply missing information if particular types of advertising claims are used (Russo, Metcalf, & Stephens, 1981; Searleman & Carter, 1988). In particular, readers of advertisements have shown a strong tendency to draw pragmatic inferences about product claims which are not

directly stated or logically implied in the advertisement (Harris et al, 1983).

Inferences result when cognitive resources operate on the elements of a set and new information is produced which was not part of the original set (Yekovich, Walker, Ogle, & Thompson, 1990). For example, an inference made while reading would be the information which was derived from reading the set of word elements (a sentence) beyond what was explicitly stated by the set of elements. This type of text expansion during comprehension occurs through both logical and pragmatic inference generation (Swinney & Osterhout, 1990).

Although it is recognized that people generally make both types of inferences while reading, research which has addressed text processing during comprehension also by definition identified when miscomprehension occurs. Definitions of comprehension and miscomprehension of text have been developed based on whether the reader infers meanings logically contained in or derived from the communication (Jacoby & Hoyer, 1987).

In the study using ads and editorials, Jacoby and Hoyer (1987) defined accurate comprehension as the extraction by the reader of the intended and correct meaning. Jacoby and Hoyer assumed that miscomprehension occurred when the reader included a meaning which did not follow from the text. That

is, the reader extracted information from the message which was not asserted or necessarily implied.

Similarly, Preston (1967) also focused on what the reader added to the text. When a reader believed that the text stated more than it asserted or logically implied, the reader was judged to have committed a logical fallacy. In the study by Preston and Scharbach (1971) inaccurate paraphrases of literal content were labeled as logically invalid statements. The cause of the fallacy was determined to be in the reader and what he or she added to the meaning of the message. For example, given the sentence "We make the only spark plug with four green ribs.", a logical fallacy was judged to occur if the reader responded that "Green ribs are an important feature of good spark plugs." was an accurate statement.

Since readers of advertisements were shown to make logically invalid inferences, it was unclear whether inferences were invited by the wording of the message or resulted from the impact of prior knowledge about the purpose of advertisements which the reader already had. However, in the Preston (1967) study the characteristics of advertisements which would invite illogical responses were apparent even to the researchers during the selection of the ad stimuli.

Therefore, the second purpose of the study presented by this paper was to investigate whether the information

directly asserted by the sentence is comprehended differently than sentences which merely imply that information. In order to replicate prior research results, it was hypothesized that subjects would rate sentences written as direct assertions more true than sentences written as pragmatic implications across all message forms, although implications also would be rated toward the true end of the scale.

Related to this was the question of whether the types of sentence constructions frequently used in ads and which invite pragmatic implications are processed differently when a processing strategy particular to ads has been primed compared to processing which occurs when strategies for another type of messages are in effect. Based on Preston's subjects' willingness to elaborate on advertising information, to read into the message what the advertiser meant to say, it was hypothesized that subjects would rate paraphrases of the target sentences as more true when the target sentences appeared in advertisements than when they appeared in other text types. In particular, subjects would rate the paraphrase of a target sentence as more true when the target sentence was written in the implied form and appeared in ads compared to implied forms in other text types.

### Information Importance

Finally, a third variable not addressed in the Preston and Scharbach study was the relative importance of the information in the stimulus sentence to the overall purpose of the text, which has been shown to be important in text processing (Goetz & Armbruster, 1980). Readers find some of the parts within a text more important than others, and readers when tested have shown to be more likely to remember the more important information. However, for stimulus materials the Preston and Scharbach study used the texts from magazine ads rewritten as other message forms. Information from each of the ad texts was used to test the other constructed message types derived from the ad. To vary the same information across message types, some reconstruction of the content was necessary. Therefore, an important sentence in one message type may not have been as important in another. As a consequence, the relationships between the sentences in ad text may have been perceived differently when they appeared in memos or letters. Hence, the subjects may have processed information which they perceived to be more important to the topic of one message differently than the same information perceived to be less important in another message.

After receiving their subjects' post hoc comments, Preston and Scharbach recognized that different levels of attention devoted to text processing during reading might

have affected the results of their study. Based on these comments, Preston and Scharbach proposed that high levels of awareness lead to subjects' intolerance and contraction of ad content, that is, when people are conscious that they are responding to an ad, the content of the ad is discounted. At the same time, subjects accepted illogical statements as accurate based on what the advertiser meant to say. Therefore, Preston and Scharbach also proposed that low levels of awareness lead to greater tolerance and expansion of ad content. That is, discounting was not shown during unconscious processes and subjects were willing to expand on the directly stated information. In sum, when people were aware of the message form the information in ads was discounted. However, when people were not aware of the message form the information in ads was expanded upon.

On the other hand, studies of ad content have shown that increased attention leads to increased elaboration (Celsi & Olson, 1988; Chattopadhyay & Nedungadi, 1992). However, subjects are often asked to respond to memory tasks after seeing the stimuli. Therefore, it is not clear when the effect of increased attention to ad text results in discounting and when it results in elaboration on what is stated.

Based on this, the third purpose for the present study was to investigate how the perceived importance of the stimulus sentence's meaning to the overall purpose of the

text affected comprehension and memory for that information. If Preston and Scharbach were correct then increased awareness of message form would result in greater discounting for important information compared to the less important information in ad text. In addition, if Celsi and Olson (1988) and Chattopadhyay and Nedungadi (1992) were correct in suggesting that attention results in elaboration, then important information would receive more expansion than less important information.

Therefore, as Preston and Scharbach suggest, if people do adopt special conventions for processing advertisements, then increased awareness would increase expansion of content in other message forms, while resulting in discounting of ad content. On the other hand, decreased awareness would result in less expansion of content in other message forms, while resulting in increased expansion of ad content. It was hypothesized that for messages other than ads readers would show willingness to elaborate on information which was more important to the purpose of the text more than they would be willing to elaborate on the information which was less important to the text. However, when readers were using a discounting strategy while reading, sentences receiving less attention when read would be less likely to be discounted. At the same time, readers would be more likely to discount the more important information in the ad message forms.

### Summary

In sum, although the initial study by Preston (1967) raised several issues, the follow-up study by Preston and Scharbach (1971) failed to clarify the influence of perceived intent, and message characteristics. Additionally, the study did not address the impact which the importance of the information to the text may have had on subjects' responses.

The purpose of the present study was to clarify the three variables which were implicated by the Preston and Scharbach study described in the preceding sections. To do this, the study by Preston and Scharbach (1971) was conceptually replicated by using print advertisements, personal letters, and business memoranda. However, the present study differed from the Preston and Scharbach study in some ways.

One, Preston and Scharbach presented the stimuli as typed texts with verbal descriptions of illustrations and message type. In the present study the ads were presented with illustrations, personal letters were written on stationery, and the business memoranda were typed on a form with a business letterhead. This was done to maximize the likelihood that subjects would perceive each text as a specific message form having a specific purpose. It was anticipated that this would enhance specific processing strategies.

Two, instead of using the information from the ads to construct the other message forms, as Preston (1967) and Preston and Scharbach (1971) had done, single sentences were used which were then written in both the directly asserted and implied forms and then embedded in the stimulus texts, one target sentence per text. This method differed from the Preston and Scharbach study in that they tried to preserve the surrounding text content across message forms.

Three, in the Preston studies the subjects were asked to judge test sentences as accurate or not accurate restatements of what was stated or implied by the message content. Inferences were divided into logically-valid and illogical categories. In the present study, measures in two types of response tasks were based on subjects' ratings of the truth of a test statement compared to the target stimulus sentence presented in the text. In the present study, any information derived from the text by the subject beyond what was explicitly stated was classified as inference. The extent of elaboration was gauged by how true subjects rated a test sentence when it was compared to its corresponding target sentence in each stimulus text.

Lastly, the present study examined whether inferences made while reading might be affected by the importance of the chosen target sentence relative to its overall text. The sentences used in constructed texts included either more important or less important information.

### Hypotheses

In the present study, three hypotheses were tested. The first hypothesis addressed the influence of discourse force. Brewer's hypothesized classifications of discourse type and discourse force assigned a persuasive discourse force to advertisements. In the Preston and Scharbach study, subjects' responses indicated that they perceived ads as having a particular persuasive intent, supporting Brewer's classification hypothesis. In addition, subjects in earlier studies were more willing to elaborate on the information in ads more than on the information in other texts.

Therefore, it was hypothesized that subjects perceiving a discourse force for the text would engage a particular processing strategy when reading the text. Test paraphrases of the target stimulus sentences would be rated as more true when appearing in advertisements than would the same sentences appearing in personal letters or business memoranda.

However, Preston and Scharbach raised the question of whether consumers initially discount information in ads while elaborating it at some other level. The second hypothesis addressed the type of response task used. Research has found that subjects remembered ad claims as more true than they actually were and that readers who make

inferences during comprehension were later not able to distinguish them from facts.

Therefore, second, it was hypothesized that during a comprehension task subjects would show discounting of information in ads by rating test paraphrases of the target stimulus sentences in ads less true relative other message forms. However, in a recognition task truth-value ratings of sentences in all three message forms would be higher than actually warranted by what had been explicitly stated.

The third hypothesis was included to investigate whether the importance of a sentence to its text influenced text processing. Research has shown that readers allocate processing differently to information based on its perceived importance to the text and based on the type of message in which it appears. It was hypothesized that when asked to rate the truth-value of a paraphrase for the target sentence subjects would assign truth-values based on the sentence's importance to the text. Specifically, information which is more important to the message will be rated higher in truth-value than less important sentences.

However, the relationship would be reversed for advertising messages. Preston and Scharbach posited that subjects were more critical of ad content when they were more aware that the information was presented in an ad. On the other hand, when subjects were less aware that the information was presented in ad form low levels of awareness

increased expansion. Support for this position would be shown if subjects rated the more important information in ads lower in truth-value than the less important information in ad texts.

## Method

### Subjects

Subjects for the study were 246 general psychology students who volunteered to participate as part of their class requirements. Twenty subjects participated in a preliminary study. Two hundred and twenty-six subjects participated in the main study. Only eight of the participants in the main study indicated that English was not their first language so their data were retained.

### Materials

Target sentences. The sentences used in the present study were ones which had been shown in prior studies to increase the likelihood that subjects would make the invited inferences. Each sentence was written in the form of two claim types: as a direct assertion and as a pragmatic implication.

Message texts. Each resulting sentence was then embedded in each of three different constructed message forms: a business memo, a personal letter, and a newspaper advertisement. Each message form was presented as a photocopy of the original. The originals had been

constructed using as many visual characteristics as possible which were representative of that message class.

For example, the business memoranda were each presented as a photocopy of an interoffice memo form. Each memo had a company logo and routing information at the top of the page. However, each memo presented the test sentence as a single sentence on an interoffice memo form. The form requested a change in the text of a book which was about to be printed by the fictitious company. The sentences presented in the memo condition were included to present the target sentences to subjects as a condition without surrounding text.

The personal letters were presented as photocopies of originals gleaned from a variety of individuals written to other people that they knew. Actually, they had been constructed by the experimenter. The letters were either handwritten or typed on different types of stationery. Some portions of each letter were blacked out. The subjects were told that this was done to edit extra and personal information. In reality, this allowed the personal letters to appear to be the usual length of casual personal letters without adding too much extraneous information while allowing the same approximate amount of text in the letter and ad conditions. The target sentence was placed at the end of the text block and was followed by a closing and signature.

The constructed newspaper advertisements were also presented as photocopied versions. Subjects were told that the ads were copies of ads in the preliminary stages of development. To reinforce this idea each ad had the words DRAFT COPY in the upper left corner. Fictitious telephone numbers and preliminary sketches added visual information to mimic ad layouts in progress. The target sentence appeared at the end of the block of text. Although the text surrounding each target sentence in the personal letter and ad changed across conditions, the wording of the target sentence remained the same across the three message types (see Appendix A for a list of the target and test sentences; see Appendix B for one sentence shown across all message form and claim type conditions).

Filler texts. Filler tasks were used to discourage carryover effects from one stimulus set to the next. In one filler task subjects read two poems by Emily Dickinson. In the second filler task subjects read a narrative paragraph about a person's visit to a village in Wales. For the third filler task, subjects completed the need for cognition personality scale (Petty & Cacioppo, 1986, p. 51). Also, the filler tasks were used as stimuli to test whether subjects were using the entire range of the response scales while processing for comprehension and during the memory task.

Classifying sentence importance. Twenty general psychology students who volunteered to participate as part of their class requirements served as subjects. To assess the classification of stimulus sentences for the variable of sentence importance subjects were asked to look for the main point of each text. Each subject read the texts from six letters and six ads with the target sentences written in the directly asserted claim type. However, each subject saw each of the twelve stimulus sentences in a text only once. The same subject was not asked to read the same sentence in both a letter and an ad context. Subjects were not given the memos since sentence importance was not a factor in the business memo condition because the memos presented only single sentences to subjects.

After reading each text, subjects ranked each sentence according to its importance to the overall message conveyed by its text. Subjects were told to assign number 1 to the most important sentence in the message, number 2 to the second most important sentence in the message, and so on until all sentences in the message had each been assigned a number.

Because the texts varied in length from 4 to 9 sentences, a sentence was considered to be more important if a majority of subjects ranked it higher than the median ranking for that particular text. Target sentences were assigned to levels of the importance variable to correspond

to the subjects' rankings. Only, seventy percent of the subjects agreed on the categorization of the target sentence as more important or less important in its text. Although this is greater than chance levels, interpretation of this factor was qualified by the absence of complete consensus by subjects.

### Design

The effects of three variables were investigated using two types of response tasks: the form of the message, the type of claim in which the sentence was written, and the importance of the sentence to its message. Every subject read four examples of each message form, six examples of each claim type, and six examples of each level of sentence importance. Each subject responded both during reading each message and after all messages had been read.

The variables were combined in a  $3 \times 2 \times 2$  repeated-measures design: three forms of message (business memoranda, personal letters, advertisements), two claim types (direct assertions, pragmatic implications), and two levels of sentence importance (less important, more important). Responses were collected for a comprehension task and for a recognition task.

### Procedure

A cover story presented the study as an investigation of the ways which people use to communicate in writing. The number of subjects participating as a group varied from 10

to 24. Subjects received the materials in booklet form accompanied by an answer sheet. The booklet alternated materials for the filler conditions with experimental conditions. The filler tasks appeared in the same order across all booklets while the order of the three experimental conditions was counterbalanced across the six lists. The poem filler condition began each booklet to "warm up" the subjects. This was followed by the first experimental group of messages. Then came the paragraph about the person's visit to Wales, followed by the second experimental group of messages. The third filler condition was the Need for Cognition personality scale. This was followed by the third experimental group of messages. For example, List 1 presented the groups of materials to subjects in the following order: poems, memos, paragraph, letters, personality scale, and advertisements.

Within each list, each stimulus sentence appeared only once. As a result, each subject read four instances of each message form, six examples of each claim type, and four sentences at each level of information importance (see Appendix C for a complete packet of materials for one subject).

Response tasks. The study employed two response tasks. Subjects gave the first truth-value rating while reading. A delayed test measured recognition memory effects.

Comprehension test. For the comprehension test subjects received the stimulus message booklet and a list containing a paraphrase of the asserted version of each of the twelve target sentences. Test sentences for the poem and paragraph filler conditions were included to increase face validity. One section of the answer sheet provided places for subjects to answer the personality questionnaire. False test sentences were included for the paragraph condition to determine whether subjects were using the entire scale range. A model of the nine-point response scale which they were to use to rate the truth-value of the test sentences appeared at the top of the page. Scale values ranged from 1 (False) to 9 (True) with no midpoint indicator.

Subjects were instructed to read each stimulus message and then to determine the truth-value of the paraphrased sentence. They were allowed to work at their own pace, referring back to the original stimulus texts as necessary when rating the test sentences.

Recognition test. To encourage normal reading processing and to discourage memory strategies, subjects were not explicitly told beforehand that their memory for the materials would be tested. They were told that they would do two separate response tasks. As subjects turned in the booklet and answer sheet from the completed comprehension task, they were given the papers and written

instructions for the second task. Subjects could observe that a second task was handed out but they did not know exactly what it entailed until they received it.

This answer sheet showed a model of the same nine-point true-false response scale used in the comprehension task at the top of the page. Scale values ranged from 1 (False) to 9 (True). It was followed by three sentences from the filler tasks and the list of twelve original stimulus sentences written in the direct assertion form. To complete the recognition task, subjects were instructed to compare the test sentences on the answer sheet to what they remembered from their reading. Then subjects used the nine-point response scale to indicate how true they believed the test sentence to be relative to what they remembered.

Post-test questionnaire. After completing the recognition task subjects were asked to indicate whether English was their first language. Also, to determine whether the subjects in this study perceived the message forms as intended, two types of information were gathered. First, after completing the recognition task the subjects were asked to indicate how realistic the memos, letters, and ads appeared.

Also, at this point information was collected to determine whether subjects perceived a particular discourse force of each message form. Subjects were asked to rank four message forms (poem, personal letter, ad, and memo)

using the same scale as was used for the pretest: 1 (main purpose) to 4 (least important purpose). The ranking of poems was included only to give additional face validity for the filler items. The four alternatives of discourse force proposed by Brewer's model (inform, persuade, entertain, literary/artistic pleasure) were ranked for each message type. All subjects in the study were able to complete the response tasks within the 50 minute time period.

### Results

Examination of the data was separated into several parts. First, subjects' opinions regarding the realism of the stimuli and the perceived intent of the message forms were examined using subjects' responses to the post-test questions. Second, separate analyses for message form and claim type were performed for each type of response task. Finally, analyses of message form, claim type, and information importance were performed for both task types including only the personal letter and advertisement conditions.

#### Materials Check

Use of scale. In the comprehension task, although the subjects' truth-value ratings of the test sentences during comprehension were toward the true end of the scale in all cases, subjects were using the complete scale range. This was apparent in the truth ratings ( $M = 1.65$ ) assigned to the false test sentences for the paragraph filler condition.

In the recognition task, the subjects' full use of the response scale range was demonstrated by the truth ratings for false sentences ( $M = 1.24$ ) used to test sentences the paragraph condition.

Message realism. To determine whether the message forms were realistic, after completing the recognition task, subjects were asked to indicate how realistic the memos, letters, and ads appeared.

For each message form a majority of subjects indicated that the it was realistic. Sixty-nine subjects indicated that all three message forms appeared realistic. On the other hand, twelve subjects indicated that none of the message forms appeared to be realistic. The highest percentage of "Don't know" responses appeared for the business memo message form. This may have been due to the subjects' limited experience in the workplace and therefore with this type of communication. The specific questions and the subjects' responses are shown in Table 1.

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 Insert Table 1 about here  
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Overall mean truth-value ratings were calculated based on the subjects' realism ratings for the ads, letters, and memos. Table 2 summarizes the group means for overall truth-value ratings across all test conditions for (1) subjects who rated all message forms as realistic, (2)

subjects who rated at least one message form as realistic, (3) subjects who rated none of the message forms as, and (4) all subjects.

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 Insert Table 2 about here  
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As shown in Table 2, subjects who thought that all of the messages forms were realistic also rated the sentences in both the comprehension and recognition tasks highest in truth-value. This may have been because the stimulus materials actually were perceived as realistic by this group of subjects or as a result of a response bias toward being a "good subject." However, although the mean truth-value responses for this group were higher than the mean truth-value responses of all subjects, the pattern of cell means for both groups were similar. The data from these subjects were analyzed using the same designs reported below for all subjects. The significant effects were the same for this group as for the analysis conducted for the larger group containing all subjects.

Similarly, the subjects who indicated that they did not think that any of the message forms appeared to be realistic rated the test sentences lowest in truth-value in both the comprehension and recognition tasks. It is not clear whether this was because this group did perceive the stimulus materials as unrealistic or as a result of a

response bias toward being an "uncooperative subject." However, the pattern of cell means for this group was similar to the pattern of cell means for all subjects, just lower in truth-value overall.

Comparisons of cell means using the GH procedure for comparisons involving unequal variances and unequal sample sizes developed by Games and Howell (cited in Toothaker, 1991) showed no significant differences between either group when compared to the means for all subjects. Therefore, the data from both the "none real" and "all real" groups were retained in the analyses.

Message intent. To determine whether the subjects did perceive intent for each message form, the subjects were given the names of four message forms (poems, personal letters, advertisements, and business memos) and were given the four discourse forces proposed by Brewer (inform, persuade, entertain, literary/aesthetic pleasure). Subjects were asked to rank order the four types of discourse force for each message form using 1 (main purpose) to 4 (least important purpose) scale. Each type was discussed using examples to ensure that subjects understood what it meant, particularly the category of literary/aesthetic pleasure. Subjects were not given a "Don't Know" category choice.

The result of subjects' rankings indicated that a majority of the subjects perceived each message form to have a primary intention. Ads were perceived to have a primarily

persuasive purpose while both letters and memos were perceived as having primarily informative purpose. Table 3 summarizes the percentage of subjects' ranking according to the main purpose of each message form.

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 Insert Table 3 about here  
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As shown in Table 3, substantial percentages of subjects ranked both letters and ads as having a primary purpose. However, letters and ads received substantial percentages in a category other than what was expected. To investigate how discourse force affected subjects' responses, mean truth-values for these groups of subjects were graphed separately. Because memos did not show a similar pattern, the memo condition was not included.

Figure 1 shows mean truth-value ratings for the groups of subjects who rated the personal letters as having primarily informative ( $N = 153$ ) or primarily entertaining ( $N = 58$ ) discourse force partitioned by claim type. Figure 2 shows mean truth-value ratings for subjects who rated the advertisements as having primarily informative ( $N = 50$ ) or primarily persuasive ( $N = 176$ ) discourse force partitioned by claim type. In both the personal letter and ad conditions the subjects who perceived the message as having a primary intention to inform, rated the test sentences

higher in truth-value. This pattern was shown for both claim types and in both comprehension and recognition tasks.

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 Insert Figure 1 and Figure 2 about here  
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Pairwise comparisons of cell means were conducted using the Games and Howell GH procedure (cited in Toothaker, 1991). Comparisons were made within both letters and ads for each claim type for the two categories of intent. Due to unequal group sizes, effect size (ES) was used as a measure of the test.

Personal letters: inform vs. entertain. While reading the asserted forms, subjects who indicated that personal letters mainly provide information did not rate tests of sentences in this condition significantly higher in truth-value than the subjects who indicated that personal letters intended to entertain, ES = .04. However, during reading, mean truth-value ratings for implications differed significantly between subjects who believed letters inform and those who believe letters primarily entertain,  $t(2, 120) = 2.02$ ,  $p < .05$ , ES = .30.

At recognition for assertions, no difference was shown between subjects who indicated that personal letters inform versus those who thought letters mainly entertain, ES = .10. In comparison, truth-value ratings for implications were rated significantly higher at recognition when subjects

believed letters inform rather than entertain,  $t(2, 60) = 2.31$ ,  $p < .05$ ,  $ES = .36$ .

Advertisements: inform vs. persuade. While reading assertions, those subjects who indicated that ads primarily intended to inform rated the test sentences significantly higher in truth-value than subjects who indicated that ads primarily intended to persuade,  $t(2, 60) = 8.63$ ,  $p < .05$ ,  $ES = 1.47$ . On the other hand, while reading implications, ratings of the test sentences showed no difference depending on the subjects' perception of primary intent,  $ES = .06$ .

Recognition for assertions showed no difference between subjects indicating that ads primarily inform and those who thought that ads primarily intend to persuade,  $ES = .20$ . Similarly, recognition for implications showed no difference in truth-value ratings between subjects based on whether they believed ads primarily inform or persuade,  $ES = .15$ .

#### Comprehension Task Analyses

For all analyses of the comprehension and recognition tasks, the level of probability used to determine significance was  $p < .05$ . The critical value for significance of post hoc tests was determined using the Scheffé critical F-value computed using  $p < .05$ . Omega-squared was used to calculate the percentage of variance accounted for by the significant effects.

Two analyses were conducted for subjects' responses while reading. One, the effects of message form and claim

type were investigated. The data were analyzed using a 3 x 2 repeated-measures design. Because sentences in the business memo condition were presented without surrounding text, the variable of sentence importance was not relevant in that condition and thus was not included in this analysis. Second, a separate analysis was conducted to examine the effects of sentence importance during reading. In the second analysis, the data were analyzed using a 2 (message form) x 2 (claim type) x 2 (level of importance) repeated-measures design.

Results of the first analysis showed two significant main effects. However, interpretation of the main effects were qualified by a two-way interaction.

Message form. The significant main effect of message form,  $F(2, 450) = 19.95$ ,  $MSe = 4.20$ , indicated that subjects rated the test sentences as significantly different in truth value based on whether the target sentence appeared in letter ( $M = 6.84$ ), memo ( $M = 6.31$ ), or ad ( $M = 5.98$ ) form. The form in which the stimulus sentence appeared accounted for 8 percent of variance. The effect of message form at comprehension can be seen in Figure 3.

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 Insert Figure 3 about here  
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Post hoc tests showed that the overall truth ratings for sentences testing target sentences in letters differed

significantly from the truth-ratings of sentences testing the target sentences appearing in advertisements,  $F(1, 225) = 19.90$ ,  $MSe = 4.20$ . Also, the truth-value ratings for tests of target sentences in letters and memos differed significantly,  $F(1, 225) = 7.56$ ,  $MSe = 4.20$ . However, truth-values for sentences in ads and memos were not significantly different. Apparently, the subjects were more willing to discount the information presented in the context of advertisements compared to the personal letter form. Alternatively, information presented in the form of personal letters may have been read less critically than either memos or ads.

Claim type. Second, a main effect of claim type was shown,  $F(1, 225) = 111.15$ ,  $MSe = 3.29$ . The test sentences were rated as more true ( $M = 6.89$ ) when subjects read the target sentence written in the directly asserted form than when subjects read the target sentences written in their pragmatically implied form ( $M = 5.86$ ). However, when subjects read the target sentences written as implications (e.g. Roman put the match to the fire.), they also rated the test paraphrases written in the asserted forms (e.g. Roman began the fire.) higher in truth-value than was actually warranted by the wording of the implied version. The type of claim in which the stimulus sentence was written accounted for 49 percent of variance. The effect of claim type on truth-value ratings can be seen in Figure 3.

Interaction of message form and claim type. The form in which the message appeared significantly interacted with the claim type in which the sentence was written,  $F(2, 450) = 3.14$ ,  $MSe = 3.47$ . However, the interaction accounted for only 1 percent of variability in subjects' responses while reading. The interaction of message form and claim type is shown in Figure 3.

Differences in claim type were significant within each message form. The greatest difference in truth-value ratings between assertions and implications was shown in the memo condition:  $\bar{M} = 6.94$  and  $\bar{M} = 5.68$ , respectively,  $F(1, 225) = 51.70$ ,  $MSe = 3.47$ . Assertions and implications in letters showed less of a difference:  $\bar{M} = 7.42$  and  $\bar{M} = 6.25$ , respectively,  $F(1, 225) = 44.58$ ,  $MSe = 3.47$ . Although the difference was significant, sentences written in asserted and implied forms showed the least difference in truth-value ratings in the ad condition:  $\bar{M} = 6.32$  and  $\bar{M} = 5.64$ , respectively,  $F(1, 225) = 15.06$ ,  $MSe = 3.47$ .

Sentence importance during comprehension. Because the importance of the target sentence to the overall purpose of its text was appropriate only in the personal letter and advertisement conditions, a separate  $2 \times (\text{letter, ad}) \times 2$  (direct assertion, pragmatic implication)  $\times 2$  (more important, less important) repeated-measures analysis of variance was performed to investigate the influence of this variable on subjects' responses. Only the effects involving

the factor of sentence importance are reported below since the main effects and interactions between the other factors reported above did not change when the variable of sentence importance was included in the analysis.

The analysis showed a main effect of sentence importance during comprehension. The importance of the target sentence to the overall message had a significant effect on subjects' rating of the truth-value of the test sentence,  $F(1, 223) = 20.43$ ,  $MSe = 4.91$ . While subjects read the messages, test sentences for the more important target sentences were rated higher in truth-value ( $M = 6.78$ ) than were tests of the less important target sentences ( $M = 6.31$ ). The variable of sentence importance, shown in Figure 4, accounted for 9 percent of variability in responses.

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 Insert Figure 4 about here  
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#### Recognition Task Analyses

The analyses conducted using subjects' responses in the recognition task replicated those conducted on the comprehension response data. First, the effects of message form and claim type on recognition were investigated using a 3 (message form) x 2 (claim type) repeated-measures design. The second analysis included only the personal letter and advertisement message forms in a 2 (message form) x 2 (claim type) x 2 (sentence importance) repeated-measures analysis.

Message form. Subjects' responses to the recognition memory task differed significantly depending upon the form of the message in which the stimulus sentence had been read,  $F(2, 450) = 10.32$ ,  $MSe = 3.08$ . The form of the message contributed 4 percent of variability in subjects' responses during the memory task. The effect of message form is shown in Figure 5.

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 Insert Figure 5 about here  
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In the recognition task, tests for the target sentences appearing in letter texts were rated significantly higher in truth-value ( $M = 7.49$ ) than the tests for target sentences appearing in memos ( $M = 7.01$ ) ,  $F(1, 225) = 8.45$ ,  $MSe = 3.08$ , and in ads ( $M = 7.06$ ) ,  $F(1, 225) = 6.78$ ,  $MSe = 3.08$ . However, the truth-value ratings of tests for target sentences in the memo and ad conditions were not significantly different.

Claim type. Subjects' responses to the recognition memory task differed significantly depending upon the type of claim in which the sentence was written when read,  $F(1, 225) = 97.16$ ,  $MSe = 3.24$ . Claim type accounted for approximately 43 percent of the variability of responses during the memory task.

The pattern of responses based on claim type was similar to the pattern in the comprehension task. Sentences

which tested direct assertions were rated higher in truth-value ( $\bar{M} = 7.67$ ) compared to the sentences which tested pragmatic implications ( $\bar{M} = 6.70$ ).

Sentence importance. Only the results for the variable of sentence importance are reported here because the pattern of significant effects replicated the ones identified in the analysis of form and claim type. Analysis showed that the perceived importance of the target sentence to the overall message had a significant effect on subjects' rating of the truth-value of the test sentence,  $F(1, 225) = 4.38$ ,  $MSe = 4.60$ . When subjects responded to the recognition task by comparing the test sentences to what they remembered reading, test sentences for the more important target sentences again were rated higher in truth-value ( $\bar{M} = 7.45$ ) than were tests of the less important target sentences ( $\bar{M} = 7.26$ ). However, the variable of sentence importance accounted for only about 1 percent of variability in responses during the memory task. The effect of sentence importance in recognition is shown in Figure 4.

Although other variables interacted with sentence importance, further analysis of this variable was postponed for future studies. One reason for this was that subjects' responses to classification of sentences to the two levels of importance was not unanimous. Further clarification of this variable is deferred until levels of the variable can be clearly defined.

### Discussion

The results of the present study clarified several questions from earlier studies of discourse processing and advertising. One, the hypothesis that subjects would rate tests for the target sentences appearing in ads as more true overall than sentences appearing in other message forms was not supported. Subjects did rate the truth-value of sentences differently depending upon the message form in which the stimulus sentence appeared. However, contrary to expectations, tests for sentences in ads were rated overall less true than tests for sentences in other types of messages, as shown in Figure 3.

The hypothesis that subjects would rate the test sentences higher in truth-value when the target sentence was written as a direct assertion than when written as a pragmatic implication was supported. Test sentences for the targets written as assertions were rated higher in truth-value than the targets written as implied forms in both comprehension and memory tests. These results replicated prior research findings.

Lastly, the hypothesis that subjects would rate the test sentences higher in truth-value when the target sentence was more important to the text was supported. However, more important information in ads was not rated as more true as had been supposed based on Preston and Scharbach findings.

Caution should be exercised when using these results to make inferences about actual consumer behavior. Participants in the study probably paid more attention to the reading and recognition tasks than an ordinary consumer would devote during casual perusal of advertising information. In addition, some effects in the present study were significant but accounted for only a small percentage of overall variability. On the other hand, these effects should not be completely ignored in a large sample until research can determine what influences these types of subtle effects have on individual responses and under what circumstances.

#### Message Form

Subjects' responses did indicate that the form of the text in which the sentence appeared influenced the truth-value assigned to the test sentence. However, the order of means was not what was expected. Readers did not show an overall willingness to assign a higher truth-value to sentences appearing in advertisements compared to the other message types. Overall, subjects rated the tests for sentences in the personal letters highest in truth-value and the sentences in advertisements lowest in truth-value of the three message forms.

Because the stimulus sentences were held constant across text forms while the surrounding visual and verbal contexts were varied, the present study was able to

eliminate the changes in wording which had been necessary in earlier studies but which had qualified the interpretation of results in those studies.

In addition, because a majority of subjects assigned both memos and letters (two discourse types) an informative discourse force, some comparison of these two conditions is possible. The memos presented only one sentence of text. On the other hand, the personal letters presented the target sentence as the final sentence in a larger text. Tests of the sentences presented in the letters were rated higher in truth-value than tests of those in memos, suggesting that differences in amount of text may have influenced subjects judgments, possibly by increasing personal involvement while reading the letters.

However, it is also possible that the subjects were more familiar with messages in the form of personal letters than they were with business memos and that this familiarity influenced the difference in truth-value ratings assigned to the letter and memo conditions.

However, using Brewer's categorization the difference between truth-values for these two conditions may also be due to subjects' perception of memos and letters as two different discourse types having the same discourse force. Therefore, perception of discourse type may also explain some of the differences in truth-value ratings.

On the other hand, the letter and ad conditions were similar in that they both presented the target sentence with other textual information, but were assigned different intent by most subjects. The tests for sentences appearing in personal letters were rated more true than tests for sentences in advertisements. While subjects may have been more involved in or familiar with the personal letters compared to the memos, subjects seemed to be discounting information in ads. This suggests that merely the perception of intent is enough to influence the reader's processing of the information.

Consumers may be less likely to discount information presented in a format which has not been associated with an intent to persuade. Advertising might be more effective if presented in a format which does not initiate an immediate discounting strategy. In fact, this has been used in television commercials which simulate talk-shows, news programs, or "man-on-the-street" interviews to disguise the advertisement.

Second, these results support the suggestion by Preston and Scharbach (1971) that people discount advertising messages while elaborating them at an unconscious level. In the present study, subjects rated the sentences in the ads as less true relative to the other message forms while reading which showed a willingness to discount the information merely because it appeared in the form of an

advertisement. On the other hand, subjects were very uncritical of information presented in the text of personal letters, rating both the assertions and implications highest in truth-value of the three message forms.

Because the subjects in the present study did not all agree on the primary intent of personal letters and ads, these two message conditions were partitioned by subjects' rankings on this characteristic to further investigate the influence of discourse force on truth-value ratings. As shown in Figure 1 and Figure 2 the subjects who thought that personal letters are primarily intended to be informative appeared to perceive information in letter form as more true than subjects who thought that personal letters are primarily intended to entertain. Similarly, subjects who thought that advertisements are primarily intended to be informative appeared to perceive information in ad form as more true than subjects who thought that ads are intended primarily to persuade. This is further evidence which suggests that subjects' perceptions about the intent of the message influences how the information is processed.

Limitations. Although most subjects rated the stimuli as realistic, the ad stimuli were not professional quality. Also, the edited personal letters may not have been as engaging as real letters. However, when reading actual letters from someone known to the reader the effect shown here would probably be enhanced.

In addition, all stimuli were presented to subjects as black-and-white photocopies of the original. Despite the fact that subjects were told that they were reading copies of original messages, these things taken together may have made less viable the assumption that subjects were not suspicious of the stimuli.

Improving these aspects by using professional quality stimuli might clarify interactions which were not significant in the present study but which might occur when consumers process information in everyday settings. Additionally, more text in the memo condition may have produced different results. However, holding verbal content constant across stimuli while creating ecologically valid message types would still be a problem.

Future research. Future studies using professionally created stimuli would extend and confirm the results of this study. Consumer information processes could be clarified by presenting stimuli in other media, such as video or radio. This would be necessary to ensure that experienced consumers who are daily immersed in professional advertising are processing information similarly to the students used for this study.

In addition, the influence of message formats on processing and their relationship to perceived discourse force needs further study. Advertisements often masquerade as other message forms. The recent rise in use of

infomercials has made the question of perceived intent relevant to consumer psychology, particularly since the question of who is responsible for miscomprehension and deception in advertising has not been clarified. In the present study, subjects were particularly uncritical of the sentences in the personal letter condition, rating tests of the letters highest of the three message conditions during comprehension and at recognition.

Also, the patterns of mean truth values in the partitioning of the letter and ad conditions by discourse force further illustrates that what readers perceive to be the intention of the message does affect perceived truth of the message. Perhaps when people read to be informed they are less critical of the message content. However, to suggest that people who perceive the text's main purpose as entertainment are more critical, as the mean truth-values would suggest, seems counterintuitive.

Rather, a more plausible explanation may be that when reading to be informed people are more actively integrating the new information with their existing information, which results in the higher-truth ratings responses. Following this reasoning, then people who read for entertainment might be less actively integrating the new information with already existing knowledge. This notion plausibly follows also in the case of advertisements. People who read ads to be informed may have been integrating the new information

and therefore rated the sentences in ads higher in truth-value, while the people who read ads as persuasive messages may have evaluated the new information using prior knowledge about advertising.

These differences suggest that two processes may have influenced the results of the present study. First, readers may be elaborating new information while integrating that new information with prior knowledge. This may be present to a greater or lesser degree depending upon what the reader perceives as desirable depending on the discourse force of the message. This elaborative process may just be the result of automatic overlearned reading processes.

On the other hand, the second process which may have been present is the critical evaluation of new information using already existing knowledge. Therefore, although subjects read the stimuli using overlearned inferential reading processes, after they were made those inferences may have been critically evaluated before subjects responded with a truth value. In this case, the discourse force of the current text might access a pre-existing strategy with which to review the merit of the new information after the inference has been made. It is not clear whether this is also an automatic process or whether it operates under more conscious control. In either case, future research might attempt to separate these two processes as well as their effects over time.

### Sentence Importance

The pattern of results involving this factor supported the hypothesis that information in text would be rated differently relative to its importance in the overall text. In particular, subjects were more willing overall to rate tests for the more important stimulus sentences higher in truth-value than the tests of the less important stimulus sentences.

The hypothesis by Preston and Scharbach that increased attention to ad material leads to discounting and that decreased attention results in expansion did not seem to be supported by the present study. If this was the case, less important information in ads should have been rated higher in truth-value than the more important information. However, this was not the case.

Limitations. The results involving the variable of sentence importance are interpreted with caution because there was not complete agreement among subjects on sentence classification in the preliminary study. Therefore, the subjects' general consensus allowed only an initial investigation of this variable.

In addition, the criterion for classification of a sentence as less important or more important to its text was set at the median ranking to allow for an analysis of this variable. It would have provided clearer interpretation if the more important target sentences had been ranked first in

importance by all subjects and if the less important target sentences had been ranked last.

Future research. With this in mind, results of the present study suggest that the importance of a sentence relative to its text may be a subtle variable that needs investigating. That a small effect was present suggests that future studies using discourse should consider this variable when constructing texts and interpreting results until it is determined when and under what conditions importance has an effect, particularly for studies of information comprehension.

#### Claim Type

Sentences were used as stimuli for this study because they had previously been shown to invite inferences when written in their implied form. Subjects rated tests of assertions higher in truth value than they rated tests for the implied forms. Yet, subjects also rated the implied forms toward the true end of the scale. This pattern of results replicates findings from prior studies using comprehension and memory tests.

Limitations. However, using sentences to test sentence comprehension and recognition has some problems. During the comprehension task some variability in the truth-ratings may have been due to the use of paraphrases of the directly asserted form to test both the asserted and implied forms of the target sentences. Using paraphrases written in the

asserted forms to test the implied forms may bias subjects' responses toward a higher truth-value rating. Ideally, the test sentences would paraphrase both the asserted and implied forms, although it would be difficult to equate meanings for the paraphrases to test the implied versions.

In addition, in the present study the test sentences for the recognition task were all stated in the asserted versions of the stimulus sentence. Alternatively, test sentences could be used which corresponded to the claim type which the subject read during comprehension. For example, the implied version of the target sentence would be tested during the recognition task with the implied version to again avoid the bias toward higher truth-values.

Also, the within-subjects comprehension and recognition tests may have influenced the increase in truth-ratings shown at the second test. It is conceivable that the comprehension test sentences using the asserted forms influenced subjects' responses to the recognition task. Therefore, the recognition task may have been in part measuring memory effects from the comprehension task rather than information remembered from the message text. This may explain the increase in truth-value of the assertions over time where the less important assertions showed a greater increase in truth compared to the more important assertions.

Alternatively, this difference between the more important and less important assertions may have been due to

a ceiling effect for responses in the recognition task. To examine whether the comprehension test influenced the subjects' responses during the recognition task, a future study could use the same task in a between-subjects design using time as a variable.

In addition, the present study only addressed the question of memory and the belief about the communication. It did not address the interaction of memory and belief about the product. Results from the present study cannot be used to infer how communication characteristics impact on consumers' beliefs about products.

Future research. Although past studies have investigated the influence of claim type on memory for information, future studies need to address the interaction of memory and belief about the product directly before any inferences can be made about the nature of the comprehension-memory-belief relationship. One way to do this might be to extend the present study to include reading the message about a product, evaluating the ad, and measuring beliefs about the product.

Also, in future studies the Cloze sentence completion procedure and between-subjects designs could be used to replicate these findings and to avoid contaminating the memory responses with the wording of the test sentences during the comprehension task.

### Response Task Type

Results of the present study supported the hypothesis that subjects' truth-value ratings would differ depending upon the type of task used. Overall, subjects rated the sentences less true while reading compared to responses in a recognition memory task.

If truth-value rating reflects inference-drawing and indicates elaboration, then subjects in the present study may have performed as Preston and Scharbach supposed would be the case: that people would unconsciously elaborate on advertising even while consciously discounting it. The initial discounting of information shown in the present study was shown to occur while people were reading. However, the responses when people had to rely on information from memory were overall more true than those at the earlier task.

Limitations. In the present study the difference in truth value between response tasks was shown in subjects' judgment about the truth of message content, rather than a belief about a product. However, it is not clear whether the difference in truth resulted from the initial discounting of the advertising information due to its persuasive intent or because the form and the information became disassociated in memory.

In addition, results of the present study cannot be compared over time due to the types of response tasks put to

the subjects. Although responses during a comprehension task differed from responses during the recognition task, this difference may have been due to the use of paraphrases for the comprehension task while using almost verbatim stimuli for the recognition task. Therefore, visual identification cues in the sentence rather than information in memory may have influenced subjects' responses.

Further, the present study was conducted with groups of subjects over one hour in an academic setting. To interpret these results more meaningfully, professionally created stimuli presented in a real-world environment and with a time delay which would approximate average consumer experience would clarify differences in task effects found in this type of material. This could be accomplished by administering the recognition test after a 24-hour delay.

Future studies. Future research might use the same test stimuli for the comprehension and memory tests to determine if truth-values do tend to increase over time and why it occurs. This might happen because the message form information becomes disassociated in memory from the information generated by inference-drawing. On the other hand, it may happen because the original form of the message was lost.

Future studies could query subjects before the memory task to see if the message form could be reinstated and produce discounting. If the form in which the message had

been originally seen could be recalled by the subject, and show the same discounting response, this would argue that the form and information generated by elaboration existed in separate memory stores. Alternatively, if subjects did not remember the original form of the message in a memory task, then source forgetting by decay of information may have resulted in the effect.

Also, future studies may be able to use the type of text manipulation employed in the present study to clarify consumer comprehension and miscomprehension of advertising messages. Richards (1990) proposed that, although miscomprehension can be consciously induced, there exists a certain level of miscomprehension which is unavoidable in all communications. He called this ineradicable miscomprehension, or the least amount of miscomprehension possible for an advertising claim. It is conceivable that what has been called ineradicable miscomprehension is due to an overlearned cognitive response to draw instrumental inferences in order to make sense out of the text being read. If so, this might explain why efforts to teach consumers to recognize dubious advertising claims have had mixed results.

The issue of who is responsible for miscomprehension of advertising is not clear because researchers have not been able to systematically separate ineradicable miscomprehension from eradicable miscomprehension. However,

implied claims can be rewritten to reduce miscomprehension. Preston and Richards (1988, cited in Richards, 1990) demonstrated that miscommunication generated by implications could be reduced but not eliminated by rewriting implications.

The results of the present study suggest that two processes may be interacting in studies which have used print stimuli to study miscomprehension of advertising. One is the inference process which readers initiate automatically to elaborate on the given information by using prior knowledge. This inference process is based on what has worked well to produce understanding for the reader in the past (Seifert, 1990).

However, there appears to be an evaluative component which also determines how people process messages which is based upon their perception of the purpose of the message. People seem skeptical about the truthfulness of advertising messages and discount the information which they contain while being uncritical of the same information in personal letters.

This suggests that miscomprehension may be the result of two different processes. If the automatic inference process operates in spite of or in tandem with the conscious discounting tendency, it may be this automatic overlearned tendency to elaborate and integrate information which is

responsible for miscomprehension of ads which has been labeled as ineradicable.

Several types of sentence constructions which invite subjects' elaborative cognitive response have been identified in prior research. It has been shown that claims with levels of eradicable miscomprehension are routinely used by advertisers (see Richards, 1990). However, in print ads ineradicable miscomprehension may be a result of automatic reading processes. The cognitive outcome of reading may be the result of automatic inferencing processes moderated by conscious source evaluation. Perhaps testing the comprehension of a particular ad claim in another message form would indicate the level of automatic elaboration which source evaluation, particularly discounting, does not overcome, thereby identifying the level of ineradicable miscomprehension inherent in that claim. The challenge of defining miscomprehension and miscommunication seems to be first identifying the differences between and the interaction of automatic and conscious, or involuntary and voluntary, processes.

#### Conclusion

In sum, this situation was artificial and might not reflect what consumer information processes occur in natural environmental settings, e.g. casually flipping through a newspaper while one watches television. However, it was apparent from this study that consumers can attribute a

particular intent to different message forms and that this can influence information processing.

In addition, different characteristics of the text also can be used to influence processing. The type of message manipulation used in the present study would be useful to investigate message miscomprehension using other message variables.

Also, the materials used in the present study corrected some of the methodological problems present in prior studies of advertising messages. As a result, the present study contributed to clarifying when consumers discount and when they expand upon advertising messages, as well as identifying issues for future investigation. Two general areas seem to emerge: one, the transformation of information from comprehension to recognition; two, how the writer's intentions for a message interact with the audience's perception of the message.

## References

- Brewer, W. F. & Nakamura, G. V. (1984). The nature and functions of schemas. In R. S. Wyer, Jr. and T. K. Srull (Eds.), Handbook of Social Cognition: Vol. 1 (pp.119-159). Hillsdale, NJ: Lawrence Erlbaum.
- Burke, R. R., DeSarbo, W. S., Oliver, R. L., & Robertson, T. S. (1988). Deception by implication: An experimental investigation. Journal of Consumer Research, 14. 483-494.
- Celsi, R. L., & Olson, J. C. (1988). The role of involvement in attention and comprehension processes. Journal of Consumer Research, 15, 210-224.
- Chattopadhyay, A., & Nedungadi, P. (1992). Does attitude toward the ad endure? The moderating effects of attention and delay. Journal of Consumer Research, 19(1), 26-33.
- Dubitsky, T. M., & Harris, R. J. (1980). Psycholinguistic studies of the same information in different types of discourse. In M. M. T. Henderson (Ed.), 1980 Mid-America Linguistics Conference Papers (pp. 122-135). Lawrence, KS: University of Kansas, Department of Linguistics.
- Dubitsky, T. M., Harris, R. J., Sanders, L. K., Betzen, R. J., & Bunton, R. L. (1982). The effects of discourse force on the comprehension of fables, parables, and

- folktales. Bulletin of the Psychonomic Society, 19(3), 127-130.
- Goetz, E. T., & Armbruster, B. B. (1980). Psychological correlates of text structure. In R. J. Spiro, B. C. Bruce and W. F. Brewer (Eds.), Theoretical Issues in Reading Comprehension (pp. 201-220). Hillsdale, NJ: Lawrence Erlbaum.
- Ha, Y., & Hoch, S. J. (1989). Ambiguity, processing strategy, and advertising-evidence interactions. Journal of Consumer Research, 16, 354-360.
- Harris, R. J. (1977). Comprehension of pragmatic implications in advertising. Journal of Applied Psychology, 62, 603-608.
- Harris, R. J., Dubitsky, T. M., & Bruno, K. J. (1983). Psycholinguistic studies of misleading advertising. In R. J. Harris (Ed.), Information processing research in advertising (pp. 241-262). Hillsdale, NJ: Lawrence Erlbaum.
- Harris, R. J., & Monaco, G. E. (1978). The psychology of pragmatic implication: Information processing between the lines. Journal of Experimental Psychology: General, 107, 1-22.
- Harris, R. J., Sturm, R. E., Klassen, M. L., & Bechtold, J. I. (1986). Language in advertising. A psycholinguistic approach. Current Issues and Research in Advertising, 9, 1-26.

- Harris, R. J., Trusty, M. L., Bechtold, J. I., & Wasinger, L. (1989). Memory for implied versus directly stated advertising claims. Psychology & Marketing, 6(2), 87-96.
- Hunt, E., & Agnoli, F. (1991). The whorfian hypothesis: A cognitive psychology perspective. Psychological Review, 98(3), 377-389.
- Jacoby, J., & Hoyer, W. D. (1987). The comprehension and miscomprehension of print communications: An investigation of mass media magazines. Hillsdale, NJ: Lawrence Erlbaum.
- Kamins, M. A., & Marks, L. J. (1987). Advertising puffery: The impact of using two-sided claims on product attitude and purchase intention. Journal of Advertising, 16(4), 6-15.
- Kirmani, A., & Wright, P. (1989). Memory and cuing effects on decision framing. Advances in Consumer Research, 16, 173-175.
- Meyer, B. J. F. (1985). Prose analysis: Purposes, procedures and problems. In B. K. Britton and J. B. Black (Eds.), Understanding expository text (pp. 11-64). Hillsdale, NJ: Lawrence Erlbaum.
- Petty, R. E., & Cacioppo, J. T. (1986). Communication and persuasion. Central and peripheral routes to attitude change. New York: Springer-Verlag.

- Preston, I. L. (1967). Logic and illogic in the advertising process. Journalism Quarterly, 231-239.
- Preston, I. L., & Scharbach, S. E. (1971). Advertising: More than meets the eye? Journal of Advertising Research, 11(3), 19-20.
- Richards, J. I. (1990). Deceptive advertising: Behavioral study of a legal concept. Hillsdale, NJ: Lawrence Erlbaum.
- Russo, J. E., Metcalf, B. L., & Stephens, D. (1981). Identifying misleading advertising. Journal of Consumer Research, 3, 119-131.
- Searleman, A., & Carter, H. (1988). The effectiveness of different types of pragmatic implications found in commercials to mislead subjects. Applied Cognitive Psychology, 2, 265-272.
- Seifert, C. M. (1990). Content-based inferences in text. Inference generation during auditory language comprehension. In A. C. Graesser & G. H. Bower (Eds.), Inferences and text comprehension (pp. 103-122). San Diego, CA: Academic Press.
- Shanteau, J. (1988). Consumer impression formation: The integration of visual and verbal information. In D. W. Stewart & S. Heckler (Eds.), Nonverbal communication in advertising (pp. 43-57). New York: D. C. Heath.

- Snyder, R. (1989). Misleading characteristics of implied-superiority claims. Journal of Advertising, 18(4), 54-61.
- Swinney, D. A., & Osterhout, L. (1990). Inference generation during auditory language comprehension. In A. C. Graesser & G. H. Bower (Eds.), Inferences and text comprehension (pp. 17-33). San Diego, CA: Academic Press.
- Toothaker, L. E. (1991). Multiple comparisons for researchers. Newbury Park: Sage.
- Wintermantel, M. & Siegerstetter, J. (1989). Hearer questioning and instruction. In C. F. Graumann and T. Herrmann (Eds.) Speakers: The role of the listener (pp. 55-69). Philadelphia: Multilingual Matters.
- Wyer, R. S. Jr., Srull, T. K., Gordon, S. E., & Hartwick, J. (1982). Effects of processing objectives on the recall of prose material. Journal of Personality and Social Psychology, 43(4), 674-688.
- Yekovich, F. R., Walker, C. H., Ogle, L. T., & Thompson, M. A. (1990). In A. C. Graesser & G. H. Bower (Eds.), Inferences and text comprehension (pp. 259-278). San Diego, CA: Academic Press.

Table 1  
Perceived Realism of Stimulus Materials

---

Question 1: Although they were edited and copied, did the personal letters still appear realistic?

	Number	Percentage
Yes	155	68.6
No	62	27.4
Don't Know	8	3.5

Question 2: Although they were reduced and copied, did the business memos still appear realistic?

	Number	Percentage
Yes	130	57.5
No	53	23.5
Don't Know	43	19.0

Question 3: Considering that just draft copies and sketches of newspaper advertisements were used, were they like other ads which you have seen in newspapers?

	Number	Percentage
Yes	144	63.7
No	68	30.1
Don't Know	14	6.2

---

Table 2  
Overall Truth Ratings Partitioned by the Realism Rating of Stimuli

---

	All Real	Some Real	None Real	All Subjects
	(n = 69)	(n = 145)	(n = 12)	(n = 226)
Comprehension	6.70	6.41	5.89	6.39
Recognition	7.42	7.21	6.82	7.19

---

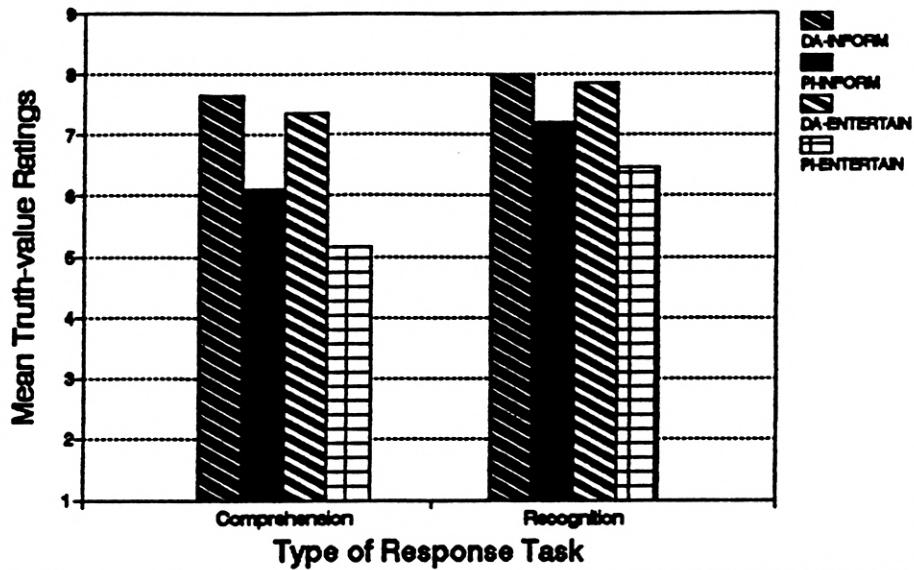
Note. Truth-value scale ranged from 1 (False) to 9 (True).

Table 3  
 Percentage of Subjects' Rating for the Main Purpose of Each  
 Message Form

	<u>Message Form</u>			
	Poem	Letter	Ad	Memo
<u>Purpose</u>				
Entertain	20.4	25.7	7.5	4.0
Inform	7.1	<b>67.7</b>	22.6	<b>89.8</b>
Persuade	7.1	8.0	<b>77.9</b>	9.3
Artistic Pleasure	<b>69.0</b>	7.5	8.8	4.4
Total Percentage	103.6	108.9	116.8	107.5

Note. Totals exceeded 100% due to duplicate responses across two categories of intention by a subject.

**FIGURE 1**  
**LETTERS: INFORM VS. ENTERTAIN**

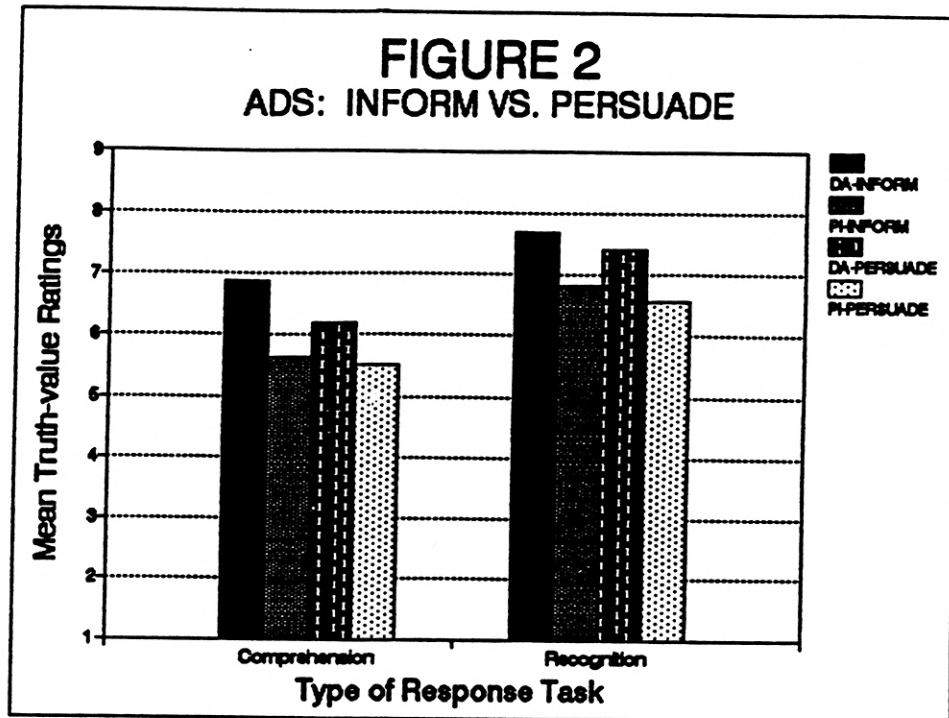


Comparison of mean truth-values partitioned according to subjects' ratings for the primary purpose of personal letters as information or entertainment.

1 = False, 9 = True.

DA = directly asserted sentence form.

PI = pragmatically implied sentence form.

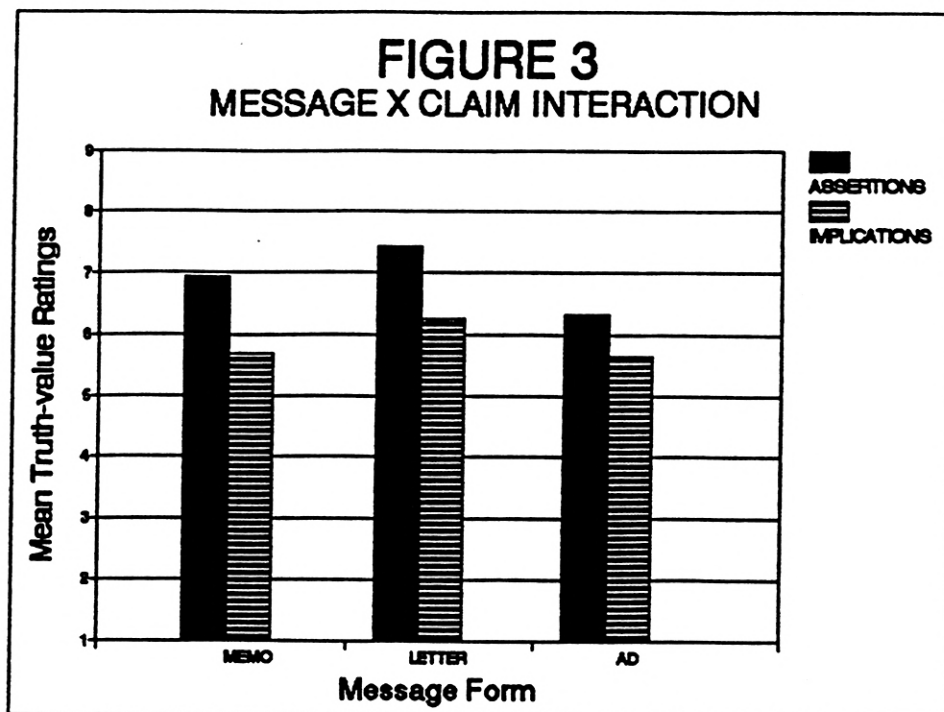


Comparison of mean truth-values partitioned according to subjects' ratings for the primary purpose of advertisements as information or persuasion.

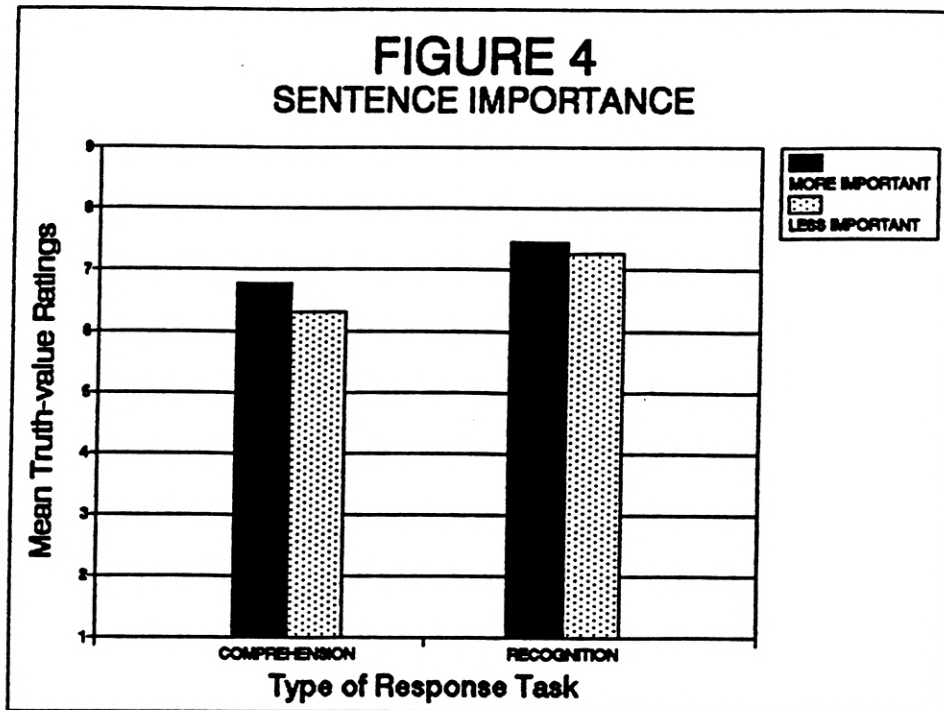
1 = False, 9 = True.

DA = directly asserted sentence form.

PI = pragmatically implied sentence form.

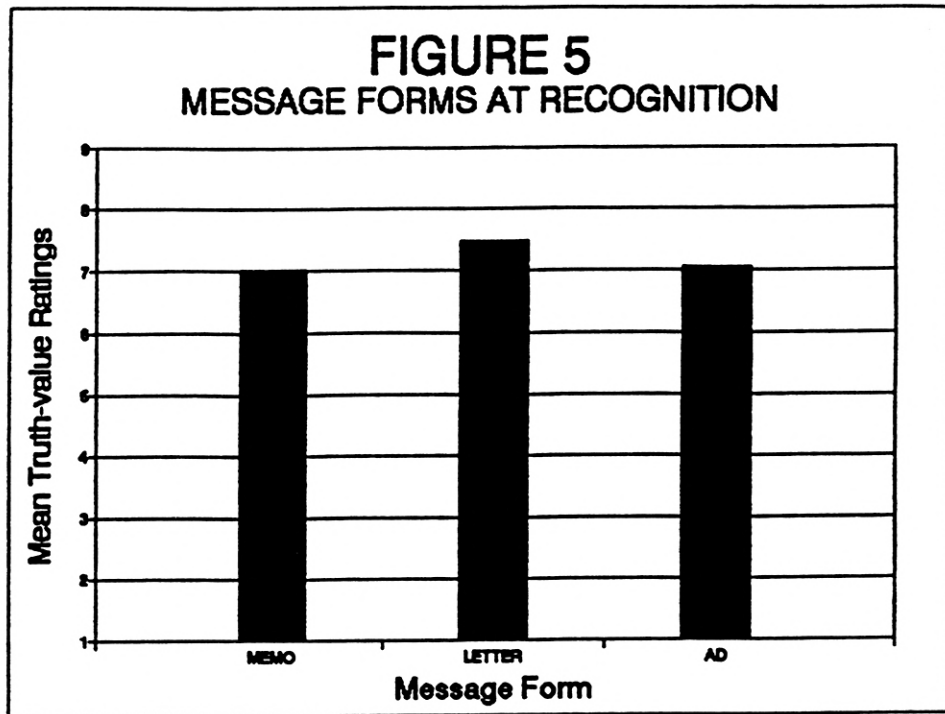


Mean truth-value ratings for the interaction of message form and claim type at the comprehension task.  
1 = False, 9 = True.



Mean truth-value ratings for sentence importance in both comprehension and recognition tasks.

1 = False, 9 = True.



Mean truth-value ratings for message form at the recognition task.  
1 = False, 9 = True.

## Appendix A

Format:

Asserted form of stimulus sentence seen by one-half of the subjects.

Implied form of the stimulus sentence seen by one-half of the subjects.

PARAPHRASE OF THE DIRECTLY ASSERTED FORM USED FOR ALL SUBJECTS AS THE COMPREHENSION TASK.

DIRECTLY ASSERTED FORM USED FOR ALL SUBJECTS AS THE RECOGNITION TEST.

---

Get rid of all those nasty aches and pains with a good rub.  
Relieve all those nasty aches and pains with a good rub.

A GOOD RUB WILL REMOVE ALL THE ACHES AND PAINS.

A GOOD RUB WILL GET RID OF ACHES AND PAINS.

A Bubble Jet is more refreshing than the other kinds.

A Bubble Jet is more refreshing.

OF ALL KINDS, BUBBLE JET PROVIDES THE MOST REFRESHMENT.

BUBBLE JET IS MORE REFRESHING THAN THE OTHER KINDS.

Freedom costs less than the other choices.

Freedom costs less.

FREEDOM IS LESS EXPENSIVE THAN THE ALTERNATIVES

FREEDOM COSTS LESS THAN THE OTHER CHOICES.

Mighty Mike eliminates even the toughest contenders.

Mighty Mike fights even the toughest contenders.

MIGHTY MIKE GETS RID OF EVEN THE TOUGHEST CONTENDERS.

MIGHTY MIKE ELIMINATES EVEN THE TOUGHEST CONTENDERS.

Roman has already started the fire.

Roman has already put the match to the fire.

ROMAN BEGAN THE FIRE.

ROMAN HAS ALREADY STARTED THE FIRE.

Bob spent all his money in Las Vegas.

Bob spent his last dollar in Las Vegas.

BOB HAD NO CASH REMAINING WHEN HE LEFT LAS VEGAS.

BOB HAD SPENT ALL HIS MONEY IN LAS VEGAS.

Smart people pick up the phone and call a restaurant that delivers.

Smart people pick up the phone to call a restaurant that delivers.

INTELLIGENT PEOPLE TELEPHONE A RESTAURANT THAT WILL DELIVER A FOOD ORDER.

SMART PEOPLE PICK UP THE PHONE AND CALL A RESTAURANT THAT DELIVERS.

The clumsy mechanic spilled grease on his shirt.

The clumsy mechanic had grease on his shirt.

THE MECHANIC HAD DUMPED GREASE ON HIS SHIRT.

THE MECHANIC SPILLED GREASE ON HIS SHIRT.

Shade was recommended by the majority of those questioned.

Shade was recommended by the majority.

MOST WHO WERE ASKED RESPONDED THAT THEY FAVORED SHADE.

SHADE WAS RECOMMENDED BY THE MAJORITY OF THOSE QUESTIONED.

The Fire Marshall put out the fire.

The Fire Marshall sprayed water on the fire.

THE FLAMES WERE EXTINGUISHED BY THE FIRE MARSHALL.

THE FIRE MARSHALL PUT OUT THE FIRE.

Under the new tax laws homeowners avoid paying taxes.

Under the new tax laws homeowners can avoid paying taxes.

THE NEW TAX LAWS STATE THAT HOMEOWNERS DO NOT PAY AS MUCH TAX THIS YEAR.

UNDER THE NEW TAX LAWS HOMEOWNERS PAY FEWER TAXES THIS YEAR.

When Johnny threw a rock through the window, his mother didn't worry.

When Johnny threw a rock at the window, his mother didn't worry.

JOHNNY'S MOTHER DIDN'T WORRY WHEN THE ROCK THROWN BY JOHNNY WENT THROUGH THE WINDOW.

WHEN JOHNNY THREW A ROCK THROUGH THE WINDOW, HIS MOTHER DIDN'T WORRY.

Appendix B

# FALCON PUBLISHING COMPANY

## Interdepartmental Memo Form 2

TO: PRINT SET  
FROM: TEXT EDIT  
ACTION: INSERT TEXT \_\_\_\_ DELETE TEXT X  
LOCATION: TEXT No. 8  
PAGE No. 40  
LINE No. 33  
SPACE No. 2

Bob spent all his money in Las Vegas. .

# FALCON PUBLISHING COMPANY

## Interdepartmental Memo Form 2

---

TO: PRINT SET

FROM: TEXT EDIT

ACTION: INSERT TEXT      DELETE TEXT X

LOCATION: TEXT No. 3

PAGE No. 40

LINE No. 33

SPACE No. 2

Bob spent his last dollar in Las Vegas.

Dear Justin,

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Have you heard the latest news about Bob? He decided that he needed to take a vacation from work. We didn't miss him. He doesn't do anything but stand around all day. Anyway, the whole office is talking about the mess he got into. Bob spent all his money in Las Vegas.

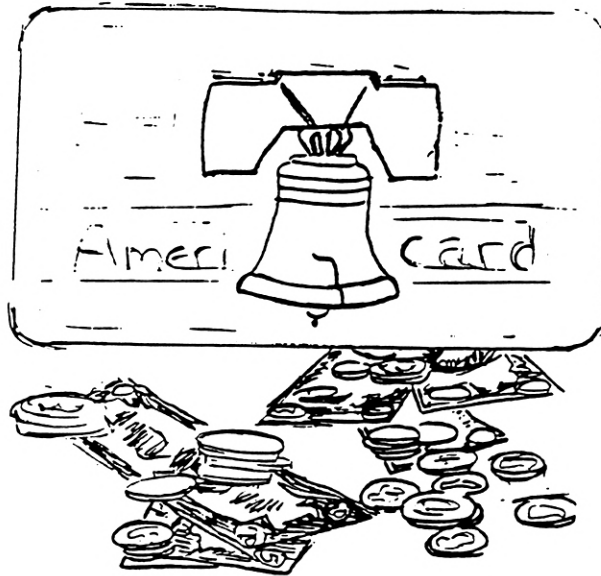
[REDACTED]  
Colleen

Dear Justin,

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Have you heard the latest news about Bob? He decided that he needed to take a vacation from work. We didn't miss him. He doesn't do anything but stand around all day. Anyway, the whole office is talking about the mess he got into. Bob spent his last dollar in Las Vegas.

[REDACTED]  
[REDACTED]  
[REDACTED]  
Colleen

DRAFT COPY



Which credit card gives you security when you're away from home?

**Americard.**

The only credit card you need to take on your vacation.  
As good as cash wherever you go. Honored around the world by  
businesses everywhere.

Just ask Bob. Bob spent all his money in Las Vegas.

DRAFT COPY



Which credit card gives you security when you're away from home?

**Americard.**

The only credit card you need to take on your vacation.  
As good as cash wherever you go. Honored around the world by  
businesses everywhere.

Just ask Bob. Bob spent his last dollar in Las Vegas.

Appendix C

# LIST 1

## POEMS

---

Many people like to communicate with others using poetry to express their ideas. On the following pages you will find some short poems. While you are reading, pay attention to any feelings or images which the poem brings to mind. Each poem has two sentences corresponding to it on your answer sheet. Read the poem and then on your answer sheet rate the truth value of the sentences corresponding to it. You may look at the poems while answering if you like.

---

## Poem #1

I had no time to hate, because  
The grave would hinder me,  
And life was not so ample I  
Could finish enmity.

Nor had I time to love; but since  
Some industry must by,  
The little toil of love, I thought,  
Was large enough for me.

## Poem #2

I never hear the word "escape"  
Without a quicker blood,  
A sudden expectation,  
A flying attitude.

I never hear of prisons broad  
By soldiers battered down,  
But I tug childish at my bars, --  
Only to fail again!

## BUSINESS MEMOS

---

Often in business settings, information is transmitted between workers in different departments within the organization through the use of memoranda. On the following pages appear examples of memos used within a company which publishes books. The memos all deal with changes which must be made in different books about to be printed. Read each sentence appearing on the memo. On the answer sheet you will find a statement on the same topic. Please rate the truth value of the statement on your answer sheet. You may look at the memo while answering if you like.

---

## FALCON PUBLISHING COMPANY

## Interdepartmental Memo Form 2

TO: PRINT SET  
FROM: TEXT EDIT  
ACTION: INSERT TEXT    DELETE TEXT X  
LOCATION: TEXT No.   7    
          PAGE No.   96    
          LINE No.   24    
          SPACE No.   21  

Roman has already started the fire.

## FALCON PUBLISHING COMPANY

Interdepartmental Memo Form 2

TO: PRINT SET  
FROM: TEXT EDIT  
ACTION: INSERT TEXT \_\_\_\_ DELETE TEXT <sup>x</sup> \_\_\_\_  
LOCATION: TEXT No. 10  
PAGE No. 105  
LINE No. 44  
SPACE No. 5

Under the new tax laws homeowners can  
pay fewer taxes this year.

## FALCON PUBLISHING COMPANY

Interdepartmental Memo Form 2

TO: PRINT SET  
FROM: TEXT EDIT  
ACTION: INSERT TEXT X DELETE TEXT       
LOCATION: TEXT No. 4  
PAGE No. 25  
LINE No. 3  
SPACE No. 17

Get rid of all those nasty aches and  
pains with a Good Rub.

## FALCON PUBLISHING COMPANY

Interdepartmental Memo Form 2

TO: PRINT SET  
FROM: TEXT EDIT  
ACTION: INSERT TEXT X DELETE TEXT       
LOCATION: TEXT No. 3  
PAGE No. 30  
LINE No. 17  
SPACE No. 32

Shade was recommended by the majority  
of those reporting.

## NARRATIVE PARAGRAPH

---

Some people prefer to communicate their ideas by writing prose. On the following page is a paragraph about someone's trip to Wales. While reading the paragraph, concentrate on any visual images which come to mind. When you are done reading the paragraph rate the truth of the statements on your answer sheet which pertain to this task. Be sure to put your responses on the answer sheet. You may look at the paragraph while answering if you like.

---

Even as I first stepped off the train in Betws-y-coed in North Wales, I could see it was a charming little mountain town, even if I couldn't pronounce its name at first. Its gorgeous, though certainly not unique, setting was along the banks of a rushing river in a lush green mountain valley. Walking along the one little main street, I could see the beginnings of a few little side streets climbing the hills. It struck me immediately how black the buildings were, not black with soot but naturally black from the slate they were constructed with. In fact, this entire quaint Victorian resort sat on a gigantic slate formation. On the way to my guest house, I could tell I was in the minority as a backpacker, and that most of the visitors seemed to be middle-aged couples on a leisurely holiday. There were still some backpackers, children, and singles, however. As I settled into my room, I decided Betws-y-coed was going to be a pleasant place to spend a couple of days.

## PERSONAL LETTERS

---

One of the most common ways in which people communicate is through writing personal letters. On the following pages are a variety of personal letters from several people. Some of the personal information has been deleted to make your task shorter. On your answer sheet is a statement about each letter. After reading the letter, rate how true you think this statement on the answer sheet is, being sure to put your answer on your answer sheet. You may look at the letter while you answer if you like.

---

Dear Justin,

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Have you heard the latest news about Bob? He decided that he needed to take a vacation from work. We didn't miss him. He doesn't do anything but stand around all day. Anyway, the whole office is talking about the mess he got into. Bob spent all his money in Las Vegas.

[REDACTED]  
Colleen

JANUARY 3, 1991

DEAR JUSTIN,

HOW ARE YOU? I'M DOING PRETTY WELL,  
I GUESS, [REDACTED]

[REDACTED]

I TOOK MY CAR IN FOR A TUNE-UP AND  
LUBE JOB. ABOUT TIME, YOU SAY? IT WAS  
ONE OF THOSE PLACES THAT DOES IT WHILE YOU  
WAIT AND IT WAS PRETTY CHEAP. I LIKE TO  
WATCH WHILE THEY DO ALL OF THAT STUFF.  
THE CLUMSY MECHANIC HAD GREASE ON HIS  
SHIRT. [REDACTED]

[REDACTED]

[REDACTED]

SANDY

[REDACTED]

[REDACTED]

[REDACTED]

Mon. am.

Dear Justin,

How are you? Everyone is ok here.  
Not much news. [REDACTED]  
[REDACTED]  
[REDACTED]

I've finally broken down and  
installed a Bubble Jet jacuzzi in the  
patio. We tried out several different  
types before finally deciding. I think  
we'll be happy with this one. A  
Bubble Jet is more refreshing than the  
other brands. [REDACTED]  
[REDACTED]

Dad

[REDACTED]

Dear Colleen,

How are you? Did you survive the holidays? Everyone here is fine. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

We started watching the silliest show at night. On cable. Something like wrestling only with different events. Anyway, they have on one regular contestant called Mighty Mike. Mighty Mike fights even the toughest contenders. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

Justin

[REDACTED]

## SENTENCES FOR QUESTIONNAIRES

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Many times people are required to communicate their opinion about an issue by responding to sentences in a questionnaire format. This is a favorite of psychologists and others who are interested in collecting data on large groups of people, such as in national surveys. On the following page is a sample personality questionnaire which uses the sentence format. Please read each sentence and then give your opinion as to how true it is of you. Please put your rating of each sentence the answer sheet.

---

On the answer sheet, please rate each sentence as to how well it describes you using the true/false scale with the following endpoints:  
 False = very unlike you. True = very like you

False      1    2    3    4    5    6    7    8    9    True

1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun.
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
5. I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something.
6. I find satisfaction in deliberating hard and for long hours.
7. I only think as hard as I have to.
8. I prefer to think about small, daily projects to long-term ones.
9. I like tasks that require little thought once I've learned them.
10. The idea of relying on thought to make my way to the top appeals to me.
11. I really enjoy a task that involves coming up with new solutions to problems.
12. Learning new ways to think doesn't excite me very much.
13. I prefer my life to be filled with puzzles that I must solve.
14. The notion of thinking abstractly is appealing to me.
15. I would prefer a task that is intellectual,, difficult, and important to one that is somewhat important but does not require much thought.
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.
17. It's enough for me that something gets the job done; I don't care how or why it works.
18. I usually end up deliberating about issues even when they do not affect me personally.

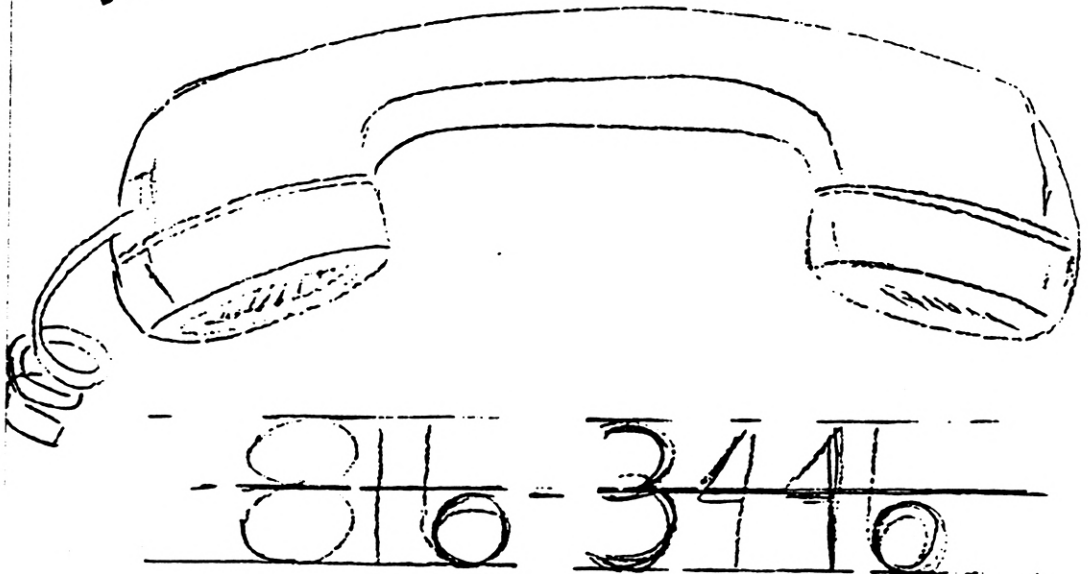
## ADVERTISEMENTS

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Common messages which we hear and see every day are in the form of advertisements. On the following pages are some preliminary drawings (draft copies) for newspaper advertisements. These are the beginning stages of an advertisement's development. On your answer sheet is a statement about each advertisement. Please read the ad and then rate the truth of the statement given on the answer sheet. You may refer to the ad while you answer if you like.

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DRAFT COPY



Isn't it a shame that you can't get BBQ ribs and chicken delivered to your door 24 hours a day? Wouldn't some BBQ ribs and fries taste real good while you watch some late night tv?

The Wild West BBQ Cafe

Delivery anywhere in town, anytime day or night. We can satisfy that late night craving. Smart people pick up the phone and call a restaurant that delivers.

DRAFT COPY

1-800-113-SAFE

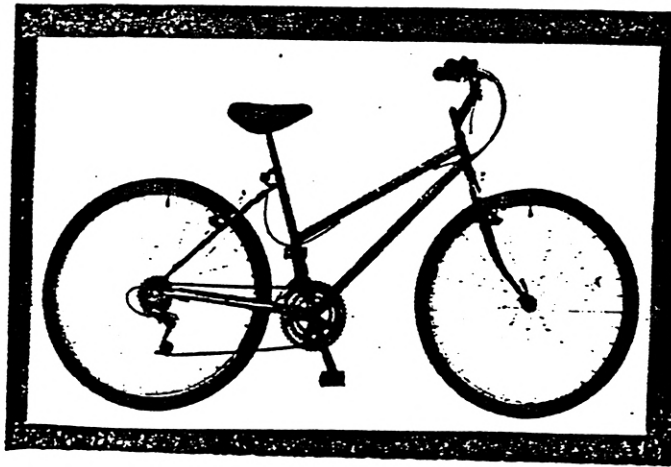


Do you have home insurance protection? Even renters cannot afford to be uninsured. Standard Insurance will cover big problems as well as life's little accidents. Just ask the Thomasons, a family that's protected by Standard Insurance. When Johnny threw a rock at the window, his mother didn't worry.

DRAFT COPY

SIERRA CYCLE

186 N. VIRGINIA ST.



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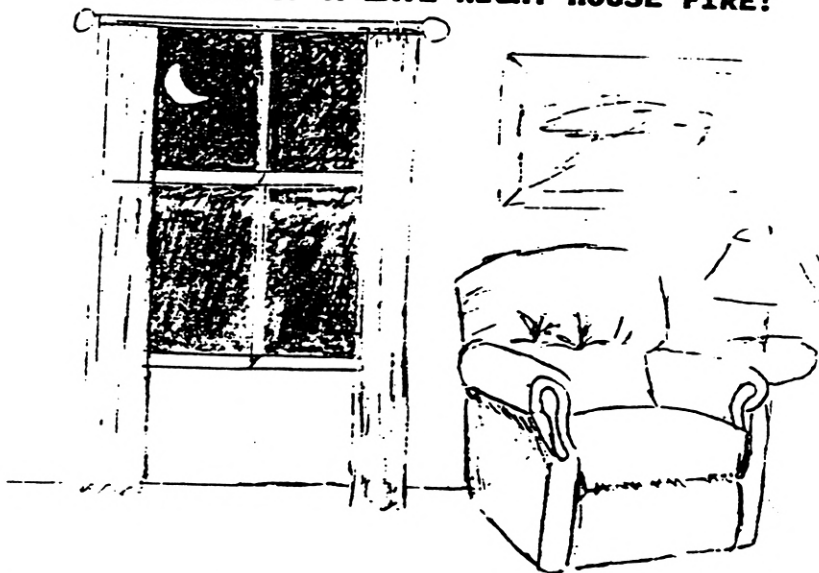
Ready for some freedom?  
Hit the trails with a new mountain bike.

And remember, cost one of the most important factors to consider when buying a mountain bike. Check out Freedom brand bikes. When you're ready for your new bike, invest in your Freedom. Freedom costs less than the other choices.

---

**DRAFT COPY**

**CAN'T TELL IF YOUR CHEAP PLASTIC SMOKE ALARM  
IS WORKING?  
AFRAID OF A LATE-NIGHT HOUSE FIRE?**



**INSTALL NEW FIRE MARSHALL SPRINKLER SYSTEM. DESIGNED  
FOR THE DO-IT-YOURSELFER.  
SECURITY. IMMEDIATELY.  
YOUR FAMILY CAN GET A GOOD NIGHT'S SLEEP.**

**WE TESTED THE SYSTEM USING TWENTY TYPES OF  
DANGEROUS HOUSEHOLD FIRES.  
THE FIRE MARSHALL SPRAYED WATER ON THE FLAMES.**

Key 1. Participant number: \_\_\_\_\_

Circle booklet list number: 1 or 2

Your booklet contains examples of different ways people communicate. For each example in the booklet there is one or more corresponding sentences below. Based on reading the message in the booklet, please rate the truth of the sentence given here by using the following scale values. Write the number of your rating choice in the blank in front of the sentence.

False										True
	1	2	3	4	5	6	7	8	9	

### Poetry

#### Poem #1

- \_\_\_\_\_ THE POET WAS WRITING ABOUT LOVE AND HATE.  
 \_\_\_\_\_ THE POEM BRINGS MANY IMAGES TO MIND.

#### Poem #2

- \_\_\_\_\_ THE POET WAS WRITING ABOUT SOMEONE IN PRISON.  
 \_\_\_\_\_ THE POEM BROUGHT MANY IMAGES TO MIND.

### Business Memos

- \_\_\_\_\_ ROMAN BEGAN THE FIRE.  
 \_\_\_\_\_ THE NEW TAX LAWS STATE THAN HOMEOWNERS DO NOT PAY AS MUCH TAX THIS YEAR.  
 \_\_\_\_\_ A GOOD RUB WILL REMOVE ALL THE ACHES AND PAINS.  
 \_\_\_\_\_ MOST WHO WERE ASKED RESPONDED THAT THEY FAVORED SHADE.

### Narrative Paragraph

- \_\_\_\_\_ THE BUILDINGS IN THE TOWN HAD GREEN TRIMMING.  
 \_\_\_\_\_ THE AUTHOR DID NOT WANT TO SPEND TIME IN THE TOWN.  
 \_\_\_\_\_ WHILE READING THIS PARAGRAPH MANY MENTAL PICTURES COME TO MIND.  
 \_\_\_\_\_ THE TOWN WAS LOCATED IN A VALLEY.

Continue using the same scale values:

False      1   2   3   4   5   6   7   8   9      True

Personal Letters

- \_\_\_\_ BOB HAD NO CASH REMAINING WHEN HE LEFT LAS VEGAS.  
 \_\_\_\_ THE MECHANIC HAD DUMPED GREASE ON HIS SHIRT.  
 \_\_\_\_ OF ALL KINDS, BUBBLE JET PROVIDES THE MOST REFRESHMENT.  
 \_\_\_\_ MIGHTY MIKE GETS RID OF EVEN THE TOUGHEST CONTENDERS.

Sentences on Questionnaires

- |         |          |          |
|---------|----------|----------|
| 1. ____ | 7. ____  | 13. ____ |
| 2. ____ | 8. ____  | 14. ____ |
| 3. ____ | 9. ____  | 15. ____ |
| 4. ____ | 10. ____ | 16. ____ |
| 5. ____ | 11. ____ | 17. ____ |
| 6. ____ | 12. ____ | 18. ____ |

Advertisements

- \_\_\_\_ INTELLIGENT PEOPLE TELEPHONE A RESTAURANT THAT WILL DELIVER A FOOD ORDER.  
 \_\_\_\_ JOHNNY'S MOTHER DIDN'T WORRY WHEN THE ROCK THROWN BY JOHNNY WENT THROUGH THE WINDOW.  
 \_\_\_\_ FREEDOM IS LESS EXPENSIVE THAN THE ALTERNATIVES.  
 \_\_\_\_ THE FLAMES WERE EXTINGUISHED BY THE FIRE MARSHALL.

Key 2.

Participant number: \_\_\_\_\_

Circle your booklet list number: 1 2 3 4 5 6

Complete sections A, B, C, and D.

(A) Many times we need to remember a message that someone has given us. Below are a few sentences lifted from the messages which you have just read in the booklet. Please try to recall the original message and rate the truth of each statement below in the same way as before, putting the number of your rating in the blank.

False										True
	1	2	3	4	5	6	7	8	9	

- \_\_\_\_\_ BOTH POETS WROTE ABOUT DOGS AND CATS.
- \_\_\_\_\_ THE PERSON WRITING THE DESCRIPTIVE PARAGRAPH ALSO TRAVELED TO GERMANY.
- \_\_\_\_\_ THE SENTENCES IN THE PERSONALITY QUESTIONNAIRE WERE EASY TO UNDERSTAND.
- \_\_\_\_\_ ROMAN HAS ALREADY STARTED THE FIRE.
- \_\_\_\_\_ BOB HAD SPENT ALL HIS MONEY IN LAS VEGAS.
- \_\_\_\_\_ SMART PEOPLE PICK UP THE PHONE AND CALL A RESTAURANT THAT DELIVERS.
- \_\_\_\_\_ UNDER THE NEW TAX LAWS HOMEOWNERS PAY FEWER TAXES THIS YEAR.
- \_\_\_\_\_ THE MECHANIC SPILLED GREASE ON HIS SHIRT.
- \_\_\_\_\_ WHEN JOHNNY THREW A ROCK THROUGH THE WINDOW, HIS MOTHER DIDN'T WORRY.
- \_\_\_\_\_ A GOOD RUB WILL GET RID OF ACHES AND PAINS.
- \_\_\_\_\_ BUBBLE JET IS MORE REFRESHING THAN THE OTHER KINDS.
- \_\_\_\_\_ FREEDOM COSTS LESS THAN THE OTHER CHOICES.
- \_\_\_\_\_ SHADE WAS RECOMMENDED BY THE MAJORITY OF THOSE QUESTIONED.
- \_\_\_\_\_ MIGHTY MIKE ELIMINATES EVEN THE TOUGHEST CONTENDERS.
- \_\_\_\_\_ THE FIRE MARSHALL PUT OUT THE FLAMES.

(B) Please indicate your answer by circling the appropriate number.

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What is your gender?      Male = 1
                          Female = 2
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Are you usually a "morning person" = 1  
or an "evening person" = 2  
don't know = 3

Is English your native language?    Yes = 1    No = 2

(C) As a check to ensure that the messages which you read were appropriate, please answer the following:

Although they were edited and copied, did the personal letters still appear realistic?

Yes = 1                  No = 2                  Don't Know = 3

Although they were reduced and copied, did the business memos still appear realistic?

Yes = 1                  No = 2                  Don't Know = 3

Considering that just draft copies and sketches of newspaper advertisements were used, were they like other ads which you have seen in newspapers?

Yes = 1                  No = 2                  Don't Know = 3

(D) When people communicate they usually have a main purpose for their message. Please give your opinion about the message types used for this study. For each type of message, rank each purpose under it either 1,2,3, or 4, in order of importance. For example, under the poem type appear four purposes which a poem might have. Rank these according to the scale values below. Then go on to the letter, memo, and ad types and do the same thing.

Main purpose	1	2	3	4	Least important purpose
1. To provide a safe and secure environment for the child					
2. To provide a loving and nurturing environment for the child					
3. To provide a stimulating and educational environment for the child					
4. To provide a healthy and active environment for the child					
5. To provide a supportive and encouraging environment for the child					
6. To provide a challenging and enriching environment for the child					
7. To provide a fun and enjoyable environment for the child					
8. To provide a peaceful and harmonious environment for the child					
9. To provide a clean and well-maintained environment for the child					
10. To provide a comfortable and convenient environment for the child					

In your opinion, how would you rank the purposes of

	a poem?		a personal letter?
give entertainment	_____	give entertainment	_____
give information	_____	give information	_____
to persuade	_____	to persuade	_____
artistic pleasure	_____	artistic pleasure	_____

a business memo?		an advertisement?	
give entertainment	_____	give entertainment	_____
give information	_____	give information	_____
to persuade	_____	to persuade	_____
artistic pleasure	_____	artistic pleasure	_____