

# Remembering implied advertising claims as facts: Extensions to the "real world"

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Previous findings that people remember implied claims in advertising (e.g., "Crest fights cavities") as assertions of fact (e.g., "Crest prevents cavities") were replicated in more naturalistic settings in a series of four studies, using real television and radio programs and commercials, as well as experimental materials in a laboratory setting. Results from the laboratory generalized well to the "real world."

Research in language information processing has shown that memory is constructive in nature (Bransford, Barclay, & Franks, 1972; Bransford & Johnson, 1973; Dooling & Christiaansen, 1977; Harris & Monaco, 1978; Loftus, Miller, & Burns, 1978; Sulin & Dooling, 1974). People do not store and retrieve input literally, but instead they modify it on the basis of interaction with the context and their stored knowledge and beliefs. Such alteration means that people often remember a more or less distorted version based largely on inferences that they constructed during comprehension or retrieval.

This inference-drawing nature of human information processing is important in the psychology of advertising, especially when considering the issue of misleading advertising. Watching or hearing an advertisement was seen as a consumer-commercial interaction in the present research, which focused on specific claims in advertising. Although product claims may be directly asserted, they are often only implied. There are many ways that an advertisement can imply a claim that may be false (Preston, 1975; Schrank, 1975). For example, hedge words weaken an assertion but leave a strong implication (e.g., "Zap Pills may help relieve pain" does not guarantee relief). Comparative adjectives may be used without ever specifying the subject of the deleted clause in the underlying syntactic structure (e.g., "Chore gives you a whiter wash" would not be false if the deleted clause were "than washing with coal dust"). Imperatives may be juxtaposed in such a way as to imply a causal connection between two temporally related activities (e.g., "Get through a whole winter without colds; take Eradicold Pills" does not insure that taking the pills will produce the healthful effect).

Previous research from this laboratory (Bruno, in press; Bruno & Harris, in press; Harris, 1977; Harris,

Dubitsky, & Thompson, 1979) has shown that, under a wide range of circumstances, people remember both implied and directly asserted product claims as being true. All of the previous studies, however, have used laboratory-created advertisements for fictitious products presented as lists of ads to subjects in a laboratory setting. The present set of studies attempted to show that the basic phenomenon replicates in more ecologically valid situations. Experiment 1 used real product names, Experiment 2 used a real radio program as an embedding context for the ads, and Experiments 3 and 4 used real ads as they naturally occurred in two types of real television programs.

## EXPERIMENT 1

The first experiment was a replication of Harris (1977) but used real product names instead of fictitious ones.

### Method

**Subjects.** The subjects were 49 undergraduate psychology students. All were native English speakers and received course credit for participation. They were run in small groups.

**Materials.** Twenty highly familiar products, each of a different generic type, were selected for use in the experiment. Each commercial had two versions, one in which a critical claim about the product was directly asserted and the other in which the same claim was merely implied. There were thus two lists of stimulus ads, each with 10 implication and 10 assertion commercials in random order. For each advertisement, two test statements were written. The statements were of four types: asserted claims, implied claims, indeterminate fillers, and false fillers. There was one list of 40 test sentences, 20 testing the critical material either asserted or implied to be true in the commercial, 10 sentences always false, and 10 always of indeterminate truth value. Sample materials and test sentences appear in Table 1.

**Design and Procedure.** The subjects were told initially that this was an experiment on how they reacted to and understood commercials. They were first asked to rate each of the 20 products on a 5-point scale: "For each of the following products circle a number from 1 to 5 to indicate how much you would trust that product, based on your previous ideas or personal experience." The end anchors of the trust scale were indicated

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**Table 1**  
**Experiments 1 and 2: Sample Experimental Materials**

(1) Assertion Commercial: Do you have tired, aching feet at the end of a long day? You should be wearing the Moon Shoe/Hush Puppies, with its revolutionary new cushion sole. Be kind to your sore feet. Moon Shoes/Hush Puppies will relieve tired, aching feet.

Implication Commercial: Do you have tired, aching feet at the end of a long day? You should be wearing the Moon Shoe/Hush Puppies, with its revolutionary new cushion sole. Be kind to your sore feet. Moon Shoes/Hush Puppies are just right for you.

Test Sentence (Critical): Moon Shoes/Hush Puppies will make your tired aching feet feel better.

Test Sentence (False Filler): Moon Shoes/Hush Puppies have a solid wooden sole for better support for weak arches.

(2) Assertion Commercial: If that lively social life isn't quite as lively as it used to be, maybe it's your mouthwash. If you use Tingle/Scope, the truly different mouthwash, it will keep your friends from avoiding you.

Implication Commercial: If that lively social life isn't quite as lively as it used to be, maybe it's your mouthwash. If even your best friends are avoiding you, use Tingle/Scope, the truly different mouthwash.

Test Sentence (Critical): Using Tingle/Scope mouthwash will keep your friends from avoiding you.

Test Sentence (False Filler): Tingle/Scope mouthwash has three germ-fighting ingredients to keep your breath clean and fresh.

*Note—Real product names were used in Experiment 1, and fictitious names were used in Experiment 2.*

as "very little" and "very much." After all of the subjects had finished this rating, the papers were collected. Then a list of the 20 products to be advertised on the commercials was handed out to help subjects keep track of the names during the commercials. The stimulus commercials, all read by the same male announcer, were then played (List 1 or List 2). The subjects were told just prior to the tape to listen carefully to these commercials because they would be asked some questions about them later.

The tape of 20 commercials was played straight through without stopping, which required a total of about 10 min, with 5 sec between each commercial. Immediately after the last commercial was finished, the answer sheet was handed out for the subjects to work through at their own speed. They were asked to rate each of the 40 test statements as false (1), probably false (2), indeterminate (3), probably true (4), or true (5).

## Results

Results of the truth-response task were analyzed by a one-way analysis of variance, which showed no significant difference between asserted claims (mean = 3.99) and implied claims (mean = 3.85), although the difference approached significance at the .05 level [ $F(1,48) = 3.63, p = .06$ ].

Pearson product-moment correlations were computed between the truth responses and the trust ratings obtained in the initial part of the experiment. Mean trust ratings for asserted and implied claims were figured for each subject and correlated with his/her mean truth response to that type of claim. Correlations for the four claim type by truth-trust cells ranged from .34 to .45 (all  $ps < .01$ ). Thus there was a significant tendency to give higher truth-value ratings to claims about products that are trusted more.

## EXPERIMENT 2

Experiment 1 and previous studies have shown that subjects routinely remember as facts inferences not stated directly in the commercial (Bruno, in press; Bruno & Harris, in press; Harris, 1977; Harris et al., 1979). None of these studies, however, has examined the potential misleadingness of commercials in the context of an actual program. Experiment 2 spliced 16 experimental commercials from Experiment 1 into an actual broadcast of the radio-television program "Face the Nation." With this format and initial instructions that drew primary attention to the program rather than to the ads, the experiment was thought to provide a situation that was both highly controlled experimentally and yet still similar to real-world radio-listening activity.

## Method

**Subjects and Materials.** The subjects were 24 undergraduate psychology students. Sixteen advertisements and test statements from Experiment 1 were used as materials, but fictitious product names were substituted for the real names. The program in which the commercials occurred was a 30-min radio broadcast of the CBS program "Face the Nation," in which the director of the Central Intelligence Agency was interviewed by news reporters in a question-and-answer format. This program was chosen because it is one of the few programs to occur on both radio and television. The 16 commercials were embedded in the program by splicing them into the program tape at four approximately equal intervals throughout the 30 min, with 4 ads in each commercial break and with alternating male and female announcers. Sixteen filler test sentences were written, based on the material in the radio program. The 32 test items from the ads and 16 from the program material occurred in randomized order on the answer sheet.

**Procedure.** Subjects were told that this was a study on how well they understood information of the type that was commonly heard on radio and television. They were instructed to listen to the program presented on the tape, because afterward they would answer questions about what they had heard. Just as in real life, where primary attention is on the program and not the commercials, subjects were not told that the main purpose of the study involved the ads rather than the program.

Subjects heard the 30-min tape recording of "Face the Nation," with the 16 commercials interspersed. Counterbalancing was done as in Experiment 1, with half the subjects hearing Tape 1 and half Tape 2.

Immediately after the tape was concluded, subjects were given an answer sheet of the 48 test sentences with instructions to judge each sentence as true, false, or indeterminate in truth value. Care was taken to explain what was meant by indeterminate truth value. Subjects were also told that, if they remembered nothing about an item, they were to mark an "X" over the number of the test sentence and not judge its truth value. They were given as much time as needed to judge the 48 test sentences.

## Results

The number of "true" responses to assertion and implication items was the major dependent variable; such a response (as opposed to "indeterminate") to an implied claim was interpreted as the subject's remembering that piece of information as necessarily true, based on the input commercial. The mean numbers of "true"

responses were 5.54 and 5.50 out of 8 for the asserted and implied claims, respectively. The difference was nonsignificant, thus offering no support for the belief that subjects can discriminate between asserted and implied claims after hearing them in the context of a real radio program. Ordinarily, the differences were even less than in the laboratory setting in Experiment 1.

### EXPERIMENT 3

None of the research so far has looked at real commercials in real programs, however. As would be expected, there was a tradeoff between realism and control, with the use of a real program and its ads as stimuli precluding the use of controlled pairs of ads, in which half the subjects hear a given claim asserted and half hear the same claim implied. Nevertheless, Experiments 3 and 4 were designed to provide more ecologically valid extensions of the previous studies to real commercials in a real television program. Experiment 3 used a news program, and Experiment 4 used a situation comedy.

#### Method

**Subjects.** The subjects were 52 introductory psychology students, tested in a large group. Subjects were recruited to first watch the CBS evening news from 5:30 to 6:00 p.m. on March 21, 1979, on WIBW television and then to attend a large group session the next day, in which they would be asked something about the program. No special mention was made of the commercials. The experimental session occurred the afternoon after the program (21 h later).

**Materials and Procedure.** The 30-min television program consisted of several news stories interspersed with four commercial breaks of two 30-sec spots each. The major news stories were the declining Middle East oil supplies, the implementation of the Egyptian-Israeli peace treaty, the Kurdish rebellion in northwest Iran, the global arms race, and the death of television's Captain Video. The products advertised were Old Spice after shave, Mazola margarine, Bayer aspirin, Eveready batteries, Roman Meal bread, Miller High Life beer, Wheat Thins crackers, and Ford cars.

Subjects received a list of 55 statements that they were asked to judge as definitely false (1), probably false (2), indeterminate (3), probably true (4), or definitely true (5), based on what they remembered from the program. Of these statements, 35 were filler items from the news stories and 20 were about the commercials (7 asserted claims, 8 implied claims, and 5 false claims).

#### Results

The mean responses to the asserted and implied claims were 4.15 and 4.09, respectively; the difference was nonsignificant. Thus the results of nonrejection of the null hypothesis found in Experiments 1 and 2 with laboratory-constructed and controlled materials were replicated with real television commercials seen at home under normal viewing circumstances.

### EXPERIMENT 4

Since a news broadcast is an unrelated sequence of stories, it is not a typical television program. Thus

Experiment 3 was replicated using the situation comedy "Happy Days," which was considered more representative of television programs.

#### Method

**Subjects.** The subjects were 21 introductory psychology students who participated to fulfill course requirements. All subjects first watched the "Happy Days" program on WIBW television from 7:00 to 7:30 p.m. on Tuesday, May 6, 1980, and then attended a group session the next day.

**Materials and Procedure.** The plot of this particular episode concerned Ralph's attempt to adjust to his parents' impending divorce. Coincidentally, this is a time when Ralph strongly desires his parents to attend a high school function for which he is the Master of Ceremonies. After some heart-to-heart talks with Fonzie and Potsie, Ralph seems ready to accept the situation. The episode ends with an inspiring performance by Ralph as emcee and a promised reconciliation by his parents.

The commercials featured Sears terry cloth dresses, Dentyne chewing gum, Dial soap, a preview of the film "The Nude Bomb," a reminder to watch "Eight is Enough" (another TV show), Revlon Flex conditioner, and Hallmark Mother's Day greeting cards.

A 40-item memory test was constructed, based on information in the program and its commercials, consisting of 20 filler items about the "Happy Days" episode (5 implied claims, 5 indeterminates, 5 asserted claims, and 5 fakes) and the same number of each type for information from the commercials. Subjects judged these statements as false (1), indeterminate in truth value (2), or true (3), based on what they remembered from the broadcast.

#### Results

The mean truth responses for asserted and implied claims from the commercials were 2.36 and 2.13 (out of 3), respectively; the difference was nonsignificant. Thus the results of Experiments 1-3 were replicated, in that subjects did not discriminate asserted and implied product claims in memory.

### GENERAL DISCUSSION

The present series of studies has shown that the earlier laboratory finding of subjects' remembering implied product claims as directly asserted facts was not a laboratory artifact but a phenomenon that in fact occurs in situations approaching and equivalent to that of the consumer at home in front of the radio or television.

Of course, the present results are entirely in the form of failing to reject the null hypothesis, which is not as statistically desirable as being able to reject it at some specified alpha level. However, since the findings are so similar across different settings in the laboratory and the "real world," it seems clear that, given no training to do so, subjects cannot discriminate asserted and implied product claims in advertising. The similarity of results from the laboratory and "real-world" studies suggests that the laboratory research on this problem is not a distortion of the way people really process ads in front of their own televisions. This suggests that results from laboratory studies looking at other variables, such as training people not to interpret implied claims as facts (Bruno, in press; Bruno & Harris, in press; Harris et al., 1979), might transfer to a more ecologically valid setting. Although the impact of the specifically visual component of television ads on the drawing of inferences was not considered in the present study, results suggest a lot of similarity and generalizability of television and radio, based solely on the auditory information content.

## REFERENCES

- BRANSFORD, J. D., BARCLAY, J. R., & FRANKS, J. J. Sentence memory: A constructive versus interpretive approach. *Cognitive Psychology*, 1972, 3, 193-209.
- BRANSFORD, J. D., & JOHNSON, M. K. Considerations of some problems of comprehension. In W. Chase (Ed.), *Visual information processing*. New York: Academic Press, 1973.
- BRUNO, K. J. Training the distinction of pragmatic implications from direct assertions in adolescents and adults. *Journal of Educational Psychology*, in press.
- BRUNO, K. J., & HARRIS, R. J. The effect of repetition on the discrimination of asserted and implied claims in advertising. *Applied Psycholinguistics*, in press.
- DOOLING, D. J., & CHRISTIAANSEN, R. E. Levels of encoding and retention of prose. In G. H. Bower (Ed.), *The psychology of learning and motivation* (Vol. 11). New York: Academic Press, 1977.
- HARRIS, R. J. Comprehension of pragmatic implications in advertising. *Journal of Applied Psychology*, 1977, 62, 603-608.
- HARRIS, R. J., DUBITSKY, T. M., & THOMPSON, S. Learning to identify deceptive truth in advertising. In J. H. Leigh & C. R. Martin, Jr. (Eds.), *Current issues and research in advertising*. Ann Arbor: University of Michigan Graduate School of Business Administration Division of Research, 1979.
- HARRIS, R. J., & MONACO, G.E. The psychology of pragmatic implication: Information processing between the lines. *Journal of Experimental Psychology: General*, 1978, 107, 1-22.
- LOFTUS, E. F., MILLER, D. G., & BURNS, H. J. Semantic integration of verbal information into a visual memory. *Journal of Experimental Psychology: Human Learning and Memory*, 1978, 4, 19-31.
- PRESTON, I. L. *The great American blow-up: Puffery in advertising and selling*. Madison: University of Wisconsin Press, 1975.
- SCHRANK, J. *Deception detection*. Boston: Beacon Press, 1975.
- SULIN, R. A., & DOOLING, D. J. Intrusion of a thematic idea in retention of prose. *Journal of Experimental Psychology*, 1974, 103, 255-262.

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