THE RELATIVE EFFICIENCIES OF VISUAL, AUDIO-VISUAL, AND AURAL PRESENTATIONS FOR TRANSMITTING COMMERCIAL MESSAGES

Thesis for the Degree of M. A.

MICHIGAN STATE UNIVERSITY
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1971

Accepted by the faculty of the Department of Advertising, College of Communication Arts, Michigan State University, in partial fulfillment of the requirements for the Master of Arts degree.

Director of Thesis

August 5, 1971

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ABSTRACT

THE RELATIVE EFFICIENCIES OF VISUAL, AUDIO-VISUAL, AND AURAL PRESENTATIONS FOR TRANSMITTING COMMERCIAL MESSAGES

By

Michael Robert O' Neal

This study attempted to determine the relative efficiencies of visual, audio-visual, and aural presentations of commercial messages. A simple commercial having five sales points, and a complex commercial having ten sales points, were both tested. The experimental design thus had six conditions: two commercials each presented three ways.

An analysis of previous research, coupled with the Travers model of information transmission, suggested five hypotheses using recall of sales points as the operationalized measure of efficiency; the greater the recall, the more efficient was the presentation of information. It was hypothesized that for the simple commercial, the visual and audio-visual presentations would produce equal learning, with the aural presentation producing less learning. This same relationship was hypothesized for the complex commercial. Within

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the visual, audio-visual, and aural conditions it was predicted in each case that learning would be greater for the simple commercial than for the complex commercial.

In the aural conditions, subjects listened to tape recordings of two 60-second radio commercials for a Lansing retailer. In the visual conditions, subjects read print transcriptions of these same commercials. For the audio-visual conditions, subjects listened to the taped commercials as they simultaneously read the print transcriptions.

Subjects for the experiment were male and female students enrolled in five undergraduate advertising courses, summer term, 1971, at Michigan State University. One hundred and eight students participated during regularly scheduled class sessions for about twenty minutes. From these, one hundred and seven usable questionnaires were obtained. Subjects in the visual conditions filled out a five-page questionnaire: the first page requested background information, the second was a print transcription of either the simple or complex commercial randomly assigned, the third was a quiz over the sales points for that commercial, the fourth was the other commercial, and the fifth was the corresponding sales point quiz for that commercial. Audio-visual subjects filled out the same five-page questionnaire, except they were instructed to listen to the

tapes as they read the print transcriptions. Subjects in the aural conditions filled out a shortened form, since they heard rather than read the commercials. Again the first page asked for background information, while the next two pages were the quizzes respectively arranged depending upon the order of aural commercial presentation.

Data for the first two hypotheses were analyzed by an analysis of variance; results supported both hypotheses that for the simple and complex commercials, visual and audio-visual presentations produced equal recall of sales points, while aural presentation produced significantly lower recall. Within the visual, audio-visual, and aural conditions, the difference in mean recall for the simple and complex commercials was analyzed by a t test. While in all three cases the difference was in the direction predicted, none of the differences was significant.

Two factors seemed to account for the superiority of the visual and audio-visual presentations in the first two hypotheses. First, subjects in both conditions had the entire commercial before them for 60 seconds. They probably scanned the material quickly, referring back to important points. "Referability" is not possible in aural presentation. Second, subjects in the visual and audio-visual conditions read their quiz in the same codable dimensions as the commercial (i.e., visual dimensions), while subjects in the

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aural conditions heard the commercials but were forced by the nature of the quiz to recognize sales points visually.

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
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MASTER OF ARTS

Department of Advertising

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ACKNOWLEDGMENTS

My sincerest appreciation goes to Dr. Sherilyn Zeigler; for without her scholarly guidance, this thesis simply would not have been possible. Her expert counsel and enthusiasm are reflected throughout the entire work. I'm indebted to Denny Hunt of Lansing radio station WILS for providing the commercials used in the experiment. A special thanks goes to the students in the graduate seminar on the management of advertising information for judging sales points in the commercials. Not to be overlooked are the instructors and students who so graciously gave of their class time for participation. And last, but certainly not least, to my wife, Linda, whose patience and understanding contributed immeasurably to the work, goes a special note of appreciation.

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I. INTRODUCTION

While the last decade has witnessed an increased interest in the study of consumer behavior, leading texts on the subject have largely ignored the process and effects of purposeful communication.[1] Nevertheless, seemingly convinced that their efforts were "effective" by whatever criteria, U.S. advertisers spent a record $20,838,000,000 in 1970, a 1.6 percent increase over 1969. Surprisingly, the largest increase was in radio expenditures, which recorded a 3.9 percent jump over the preceding year. Magazines, on the other hand, showed the greatest decline, over 5 percent. Television seemed to be slowing its pace, registering a modest 2.1 percent increase.[2] Time and production costs seem to be taking their toll on the television advertiser; this is further evidenced by the preponderance of 30-second spots now aired on television.[3] The result, one columnist points out, has been a drop in product information in favor of more overpowering, explosive ads.[4]

The seeming irony of this change in format without knowledge of effect is further highlighted by the TvB finding that "EVERYTHING in a commercial can help or hurt its objective."[5] With the

excessive amounts of money spent yearly in attempts at persuasive communication, advertisers would be well advised to undertake laboratory studies of all phases of the communication process in an attempt to guide the construction and dissemination of advertising information. The laboratory offers known conditions where many extraneous influences are eliminated; given a workable definition of "effect," close observation is possible so that relationships between phenomena can be revealed and "effect" measured. Any experimental finding is valuable for either of two reasons. First, it may support the hypothesis in question, leading to increased confidence in the posited relationship. Second, it may fail to support the hypothesis, but instead point out the need for new experiments and observations, and eventually lead to new discoveries.[6]

The following experiment was an attempt to study the effect of three different methods of message presentation on learning commercial sales points. A simple 60-second commercial message and a complex 60-second commercial message were each presented aurally, via tape recordings; visually, via print transcriptions; and audio-visually, via simultaneous tape and print presentation. Six conditions thus resulted (two commercials presented three ways).

Subjects for the experiment were male and female undergraduates in five advertising courses at Michigan State University,

summer, 1971. The experiment was conducted during regularly scheduled class meetings from June 28 to July 2, 1971.

In each of the six conditions, learning was measured by a quiz over the sales points in the message to which the subject had just been exposed. On the quiz, the subject was to indicate if each sales point listed was in the commercial, might have been in the commercial, or was not in the commercial. Since a correct response was assumed to indicate that learning had taken place, the mean number of correct responses in each condition was calculated and all were compared. The greater the learning, the more efficient that method of presentation was then judged to be.

Background

In recent years, as advertisers have become more sophisticated in the use of research techniques, their efforts to obtain information regarding media contributions to advertising effectiveness have multiplied. While such efforts are a step toward valid inter-media comparisons, the National Industrial Conference Board (NICB) points out that they are plagued by three problems.[7]

First, their efforts attempt the hopeless "comparison of apples and oranges." This problem has plagued media analysts for some time: audience-size and cost-efficiency comparisons do not

permit valid inter-media comparisons, since audiences as defined by various media are inherently different from one another. Thus, for example, average-minute viewers differ from issue readers, and the cost per thousand homes is not comparable to the cost per thousand readers. The solution, one researcher suggests, is to separate "advertising effects of media" from audience comparisons. The problem becomes circular, however, depending upon the definition of "effect" employed; to many researchers "effect" must include the number of people reached as well as the impact.[8] Very real difficulties in definition here suggest that the "apples and oranges" problem may never be settled to the satisfaction of all researchers.

A second problem, that of equal copy, does not hamper intra-media comparisons. Providing that the study is carefully designed, the identical ad can be run in two comparable vehicles, with resulting differences attributable to the relative efficiency of either vehicle. The problem is not so easily solved for inter-media comparisons, however. Each media type has unique qualities which are naturally exploited by variegated copy approaches. The problem is so acute, in fact, that one researcher doubts whether it will ever be solved, commenting that "It seems unlikely that practitioners or independent arbiters can reach agreement as to what constitutes 'constant' copy as between media. . . ."[9]

A third problem, a methodology bias, stems from the fact that different media transmit via different channels (visually, aurally, or both), while the technique which measures results may utilize a different channel. Thus, for example, a questionnaire may facilitate recognition of slogans seen rather than heard, while an interview may facilitate recognition of slogans heard but never seen. This problem, with sufficient resources, is solvable; expediency, however, often dictates otherwise.

Significance of the Study

The conclusion might well be drawn from the discussion above that inter-media field comparisons, if conducted as in the past, will never be completely valid; indeed, this author draws that conclusion. A new focus seems in order to shed some light on this dilemma. The author suggests that the recent conception of man as a system will provide this new focus.[10]

This conceptualization highlights man as deriving information from his environment and emphasizes the relative abilities of his various sensory systems in his attempt to interact meaningfully with his environment. The change in focus is from the media providing information, to man's ability to utilize the information. With this distinction in mind, the different media can be viewed as

presenting different sensory stimuli, with one being perceived visually, another aurally, etc. The basic point of inquiry thus becomes: "How well is man equipped to deal with equivalent stimuli coming to him through his eyes, his ears, and in combination?"

II. THEORETICAL BACKGROUND

Henneman and Long have surveyed the literature comparing the relative efficiency of the auditory and visual modalities.[11] These comparisons fall into the following categories:

The Selection and Blocking of Stimuli

Man can obtain directed eye movement by moving his eyes as well as by turning his head. That is, he has two related methods of "looking at" something, or, alternatively, "looking away." The ear has no controlling set of muscles, nor will turning the head remove the stimulus. Thus while the receiver can merely turn his head or look away to avoid video, he must mentally "tune out" audio to avoid hearing it. Similarly, the controlling musculature of the eye facilitates adeptness of clarification unknown to the ear. Audio-visual interlock is, then, singularly important to increase information transfer in less than optimum conditions: "Say what you show, and show what you say" becomes a commandment for effective television writing.

Dimensions for Coding

Before an actor can be identified as "John Doe" or a jingle recognized as the "Brand X Song," a physical change in the form of the message must take place.[12] Visually, light waves must be transformed into visual images in the brain; aurally, sound waves must be transformed into verbal symbols in the brain. Henneman and Long point out that auditory information can be coded in terms of frequency, intensity, and the time distribution of signals, with location a quite unsatisfactory coding device. Visual information, however, can be satisfactorily coded with respect to length, width, intensity, wave length, time, and distance from the receiver. They also point out that traditionally vision has been much better exploited for information transmission than has audition, and this "practice effect" may be just as important as the number of codable dimensions.

Data may be presented to the eye either simultaneously or sequentially, while sequential presentation is necessary for the ear. Simultaneous aural transmissions have a tendency to mask one another; note, for example, the popularity of stereo speakers for "unmasking" simultaneous transmissions. This point becomes vitally important when considering the rate of information transmission: hearing can proceed only as fast as the language is spoken

(up to the point of garbled transmission), while reading is commonly undertaken at a much faster rate determined by the receiver as opposed to the sender. In experimental situations, therefore, the reader often has time to refer back to material still physically available because of this speed differential, while the listener is constrained by the rate of sequential presentation.

Redundancy in Simultaneous Transmission

Increasing redundancy may be conceived of as successive approximations to the case of simultaneous presentation of identical data through two channels. Thus if a subject heard the slogan "Brand X is three ways stronger" and saw the words "Brand X is three ways stronger" simultaneously, the information presented would be one hundred percent redundant. Similarly, if he heard "Brand X is three ways stronger" and simultaneously saw "John Doe plays golf," the information would be nonredundant. The more redundant the information, the less the receiver has to divide his attention in an attempt to comprehend as much as possible.

As the amount of audio-visual redundancy approaches the former case, channel switching (from visual to oral and from oral to visual) can facilitate improved comprehension. If the condition of one hundred percent redundancy is met, the only information loss

would result from the time spent switching channels, or losing one's place by attempting to "read ahead." As the amount of audio-visual redundancy approaches the latter case, the Hernandez-Peon inhibitory effect suggests that the transmission of significant information through one modality will produce a partial block in nonredundant transmission through other modalities.[13] A significant portion of the highly nonredundant information will, therefore, be lost.

III. RELATED RESEARCH

Klapper, and Day and Beach[14] both have reviewed studies of the relative efficiencies of the visual and aural sensory modes for information transmission. Interestingly enough, the large majority of these studies were undertaken early in the century, very few since 1940, and virtually none in the last twenty years. Unfortunately, as Travers notes, scientifically unspeakable shortcomings pervade their entirety, to the extent that their conclusions on information transmission may very well be artifacts resulting from poor experimental procedures. None used any tests of significance, and sample sizes were often minimal. Moreover, no control was exercised over such factors as the type of material to be learned or the exposure time of the materials.[15] With previous studies so contrary to what would be expected in terms of contemporary theory and laboratory procedures, further research is clearly in order.

Day and Beach generalize that simultaneous audio-visual presentation is superior to either sense alone, although no statistical evidence is offered. Ten other generalizations are offered that supposedly differentially affect visual or audio supremacy; so little

reliable data is offered in support of any of them that they will not be considered here.[16]

Klapper reports that regarding simple material, retention is greatest with simultaneous audio-visual presentation, followed by visual presentation alone, and then by aural presentation. Studies employing complex materials, Klapper reports, present wholly contradictory findings, with some favoring audio-visual presentation for greatest retention, while others favor visual presentation. These results, it should be noted, are suspect for two reasons. First, "complex" material was never standardized, including factual geography selections, 2500-word essays on psychological topics, etc. Second, these findings may be unreliable for lack of sufficient experimental rigor.[17]

More recently, van Mondfrans and Travers attempted to clarify the situation with two studies incorporating more rigorous laboratory procedures. Their data clearly refute the earlier conclusion that simultaneous audio-visual transmission results in greater information retention than does transmission by either sense modality used singularly. Their data show that both the audio-visual and the visual presentations produce approximately the same amount of learning, with the auditory increasingly inferior as the stimulus material becomes more unorganized.[18]

IV. PROBLEM AND HYPOTHESES

Problem Statement

Is learning of commercial material greatest when the material is presented visually, audio-visually, or aurally? As the complexity of the commercial material is increased, will learning be greatest visually, audio-visually, or aurally?

Hypotheses

The Travers model of information transmission, theoretical advantages and disadvantages of man's perceptual systems, and recent research suggest the following hypotheses:

Let the amount of learning in each condition be designated as:

X_1 = simple visual condition, X_2 = complex visual condition

Y_1 = simple audio-visual condition, Y_2 = complex audio-visual condition

Z_1 = simple audio condition, Z_2 = complex audio condition

then:

1. When the information transmitted is simple, X_1 will equal Y_1, and each will be greater than Z_1.

2. When the information transmitted is more complex, X_2 will equal Y_2, and each will be greater than Z_2.
3. Within the visual condition, X_1 will be greater than X_2.
4. Within the audio-visual condition, Y_1 will be greater than Y_2.
5. Within the audio condition, Z_1 will be greater than Z_2.

Definitions

1. Learning is defined as the percent of correct responses to sales points which were and were not included in the commercials. Measurement was aided recall immediately following each commercial.
2. The simple commercial is defined as one containing five sales points in sixty seconds, as determined by a panel of judges.
3. The complex commercial is defined as one containing ten sales points in sixty seconds, as determined by a panel of judges.
4. In the audio conditions, subjects listened to tape recordings of the simple and complex commercials.
5. In the visual conditions, subjects read mimeographed print transcriptions of the simple and complex commercials.

6. In the audio-visual conditions, subjects simultaneously heard the tape recordings and read print transcriptions of the simple and complex commercials.

V. METHODOLOGY

Statistical Design

The experiment has six conditions: visual, audio-visual, and audio for the simple commercial, and visual, audio-visual, and audio for the complex commercial. Hypotheses 1 and 2 call for a statistic to test the difference between three means, while hypotheses 3, 4, and 5 demand a statistic to test the difference between two means. Given the assumption of interval data, it was decided hypotheses 1 and 2 would each be tested by an analysis of variance. The null hypothesis that all three means are identical is tested against the alternative that at least two of the means are not equivalent. Thus the null hypothesis is:

$$H_o: u_1 = u_2 = u_3$$

and H_o is rejected under any of the following conditions:

$$u_1 \neq u_2 \neq u_3$$

or

$$u_1 \neq u_2 = u_3$$

or

$$u_1 = u_2 \neq u_3$$

or

$$u_1 = u_3 \neq u_2$$

The analysis of variance is designed to detect whether or not any of these alternative conditions exists to a significant degree. If so, the conclusion must be that at least two of the means are not equivalent. The test does not specify which alternative does exist. This conclusion must result from a prima facie analysis of the data; in the present experiment, alternative condition three is hypothesized.

As hypotheses 3, 4, and 5 called for a statistic to test the difference between two means, it was decided that each would be tested by a t test. The null hypothesis that the two means are equal is tested against the alternative that they are not equal (called a two-tailed t test). Thus the null hypothesis is:

$$H_o: u_1 = u_2$$

and the alternative tested is:

$$u_1 \neq u_2$$

for each hypothesis. If a significant difference is detected, H_o is rejected in favor of the alternative hypothesis.

The level of significance tested in all cases was $\alpha = .05$. That is, the probability that the null hypothesis is true when a significant difference has been obtained is only one in twenty.

Sample Design

Subjects for all conditions were male and female students enrolled in five undergraduate advertising classes, summer, 1971, at Michigan State University. Subjects were relatively homogeneous in age, scholastic average, and advertising background. One hundred and eight subjects participated, and one hundred and seven usable questionnaires were obtained. Since the experiment was conducted during class meetings, differing class sizes precluded equal sample sizes in all conditions.

Message Design

Even though radio set penetration in the United States is very nearly one hundred percent, the medium suffers from competition with routine activities in the workaday world. Oftentimes the radio is on but is overshadowed by telephone conversations, traffic noise, children playing, meal preparation, etc. As a result, the consumer hears, but does not listen. Radio rarely captures a listening audience for long periods; people simply do not "sit down to listen to the radio" for an evening's entertainment. As a result of this

relegation to the "backseat" of the daily routine, radio has become a supplemental medium, oftentimes serving only a "reminder" purpose in advertising campaigns. For these reasons a logical question deserving further study seemed to be: "Just how much information is retained when a commercial message is heard?" Is hearing a commercial less efficient than reading a commercial or some combination of hearing and reading?

For the audio condition, two 60-second radio commercials were selected. Both had been previously recorded by radio station WILS, Lansing, for use by Hager-Fox Home Center, a Lansing furniture retailer. The simple commercial (five sales points) was for a Sylvania color console, and the complex commercial (ten sales points) was for a Westinghous double-oven range. An effort was made to control as many aspects of the two messages as possible, excluding the number of sales points. Both commercials were recorded by the same announcer, both had music in the background, and both were aired on WILS several times prior to the experiment. Any differences between the simple and complex audio conditions which might be found, then, could not be attributed to extraneous variables.

For the visual condition, each of the two commercials was transcribed word for word into print form. The stimulus materials

were, therefore, grammatically equivalent for the audio and visual conditions. Only the method of presentation was different: the audio condition subjects heard the commercials, while the visual condition subjects read them.

For the audio-visual condition, both the tape recorded version and the print version were presented simultaneously. Thus, subjects in the audio condition heard two tape recorded commercials, differing mainly in the number of sales points, subjects in the visual condition read print transcriptions of these same commercials, and subjects in the audio-visual condition read the print transcriptions as they heard the tape recordings.

Questionnaire Design

Communication theorists point out the need for appropriate learning to take place to facilitate the decoding of even the simplest of messages.[19] Others have even ascribed centrality to learning in their theory of buyer behavior, suggesting that "He [the consumer] actively seeks information from his commercial and social environments," with price, quality, availability, service, and distinctiveness becoming necessary inputs for the process to function efficiently.[20] For these reasons learning of sales points was selected as the dependent measure of information transmission. Attitude

measurement was not selected because much research suggests that attitudes may in fact follow purchase behavior, rather than precede it.[21] Furthermore, attitude measurement presupposes that learning has already taken place, since an attitude includes a cognitive element as well as an affective element.[22]

All subjects in each condition filled out a questionnaire; the first page requested background information to insure minimal variance in sample selection. The remainder of the questionnaire varied in format depending upon the experimental condition. In the visual condition, page two was either the simple or complex commercial, randomly assigned; page three was a corresponding quiz to measure recall of sales points. Page four was the other commercial, and page five its corresponding quiz on the sales points. The audio-visual condition received this same version of the questionnaire, but subjects were instructed to listen to the tape recording as they read along on pages two and four.

Since the audio condition heard the commercials and did not read them, they received a shortened version of the questionnaire. Following the first page requesting background information was an appropriate quiz to measure recall of sales points in the taped commercial. Page three, then, was the other quiz to measure recall of the second commercial. Pages two and three were reversed, of

course, depending upon which commercial the subject heard first and which he heard second. See the Appendix for examples of the questionnaires and instructions.

The quizzes were composed of sales points, some of which were in the commercials, and some of which were not. A panel of seven graduate students in a seminar on the management of advertising information determined sales points in the two commercials. A criterion of 70 percent (five of seven judges) agreement had to be met by each phrase to include it as a sales point. Additional sales points (foils) which were not in the commercials were included from competitive retail and product commercials. Since learning was defined as the percent of correct indications of those sales points and foils which were and were not included, five foils were added to the simple commercial and ten to the complex commercial. Thus, if a subject desired to guess on all sales points by marking a consistent pattern (e.g., all "were not" included responses), neither commercial would offer any advantage in percent of correct responses. All the sales points and foils in both quizzes were randomly ordered as well.

It was assumed that learning would allow the subject to correctly identify not only those sales points which were included, but also those which were not (foils). As a double check against

guessing, a third response choice, "might have been," was included. All of these responses were assumed to indicate that sufficient learning had not taken place to allow recall of the sales point (or foil), and hence were excluded from the percent of correct responses.

Pretest

Questionnaires and instructions were pretested on an undergraduate advertising class to make certain they were understandable. If any of the subjects had had questions regarding the instructions or performed the quizzes improperly, appropriate changes would have been made for clarification before the experiment. The pretest proceeded flawlessly, however, so no changes were made in either the instructions or the questionnaires. It was decided, therefore, in order to increase the sample size, to include these subjects' responses in the appropriate condition in the final statistical analysis.

The Experiment

On June 28 and 30, 1971, two small classes participated in the visual conditions of the experiment; their responses were pooled to increase cell size for analysis. The experimenter was introduced as a graduate student conducting some research for the Advertising Department. Questionnaires were distributed to all subjects; since some students were in both classes, they were asked to participate

only once. After the background information on the covers had been filled in, the subjects were instructed that they had exactly sixty seconds to read the commercial on page two. Since the commercials were randomized, some read the simple commercial first and some the complex. After the minute was up, subjects were instructed to mark the appropriate responses to the quiz on page three. Again, some subjects were quizzed on the simple commercial, and some on the complex, depending upon which commercial they had just read. The quiz took approximately four minutes. When everyone was finished, the entire procedure was repeated, with each subject reading the other commercial and taking the corresponding quiz. The entire experiment lasted approximately ten minutes.

On July 2, 1971, two small classes participated in the aural condition of the experiment. The experiment proceeded exactly as above, except this time one entire class heard the simple commercial first, then the complex. The other entire class heard them in reverse order for randomization. Again the responses were pooled to increase cell size.

On July 2, 1971, one large class participated in the audio-visual condition. This time, in order to randomize the commercial presentation, one-half of the class was excused to another room for an irrelevant writing task, while one-half remained to participate.

Otherwise, the experiment proceeded exactly as above, with the exception that the subjects simultaneously read and heard the commercials. When the first half of the class was finished, they were excused for the same irrelevant writing task. The other half of the class then participated exactly as above, except the order of commercial presentation was reversed. The entire experiment took approximately twenty minutes.

Limitations of the Study

Generally, subjects performed very well in all conditions. There were no questions whatsoever, nor did anyone seem to lag in filling out his quiz forms. Many subjects provided extra background information, listing each advertising class they had taken, even though it was not called for. When subjects volunteered that they had participated in another class, they sat quietly during the experiment.

Experimental conditions, unfortunately, were less than optimum. The rooms were large, so a "listenable" audio level was difficult to obtain, especially for those in the rear of the room. One room had windows opening above a heavily traveled road, and traffic noise was rather distracting. These conditions, it should be noted, may have contributed to the results of the study and are discussed

in detail below. They are not significantly different from everyday conditions (e.g. driving distractions), however, and as such may be more realistic than constraining!

One design problem should be noted: the radio commercials did have music in the background, which should have been excluded to minimize extraneous aural inputs. The Travers model would suggest, in fact, that the music may have masked the verbal copy, thus contributing to the experimental findings, albeit to a minor extent. If a replication were attempted, the music should be eliminated.

It should be noted that the quizzes had to be decoded visually (i.e., the quizzes were printed, not aural) from the same dimensions just utilized in the visual and audio-visual conditions, but not in the aural condition. In other words, the sales points may have been more recognizable visually since they had just been decoded from the same dimensions. The aural condition demanded that the sales points be decoded once from a set of aural dimensions (the tape recording) and again from a set of visual dimensions (on the quiz). As such, it is comparable to the third problem of field studies outlined previously.

Statistical and Analytic Procedure

For each sales point, each subject had three possible responses to choose from; he could indicate that the sales point was in the commercial, that it might have been in the commercial, or that it was not in the commercial. A correct response was scored when the subject indicated that a sales point was in a commercial when indeed it was, or when the subject indicated that a sales point was not in a commercial, when indeed it was not. All of the "might have been" responses were thrown out as indicative that sufficient learning had not taken place. In each condition, correct responses for all subjects were summed, and divided by the total possible correct responses in that condition to yield mean scores. For hypotheses 1 and 2, these mean scores were tested by an analysis of variance; for hypotheses 3, 4, and 5, differences were tested by a t test.

VI. FINDINGS

In the visual conditions, the simple commercial produced the greater learning, 80.4 percent, while the complex recall level was 68.5 percent. In the audio-visual conditions, recall of the simple commercial was greater, 79.5 percent, compared to 71.3 percent in the complex condition. Finally, in the aural conditions, the simple commercial again facilitated greater recall, 62.5 percent, compared to 51.7 percent in the complex commercial.

These data confirmed hypotheses 1 and 2; in hypotheses 3, 4, and 5 the relationships were all in the direction predicted, but none of the differences was significant.

Hypothesis 1: Recall of the Simple Commercial across Conditions

An analysis of variance was used to test the mean recall scores for the simple commercial presented visually, audio-visually, and aurally. The hypothesis was confirmed; equal learning took place when the simple commercial was presented visually and audio-visually. Learning was significantly lower in the case of aural presentation, as predicted. Table 1 suggests that, on the

average, subjects in the visual and audio-visual conditions could correctly discriminate between sales points and foils eight times out of ten. On the average, in the audio condition, subjects were successful only six out of ten times.

Table 1

Recall of the Simple Commercial
(Sylvania)

	Condition		
	Aural	Audio-visual	Visual
Sales Points	5	5	5
Sales Points and Foils	10	10	10
n	44	40	23
Total Possible Correct	440	400	230
Actual Correct	275	318	185
Percent Correct	62.5	79.5	80.4
F Value	31.5 ($p < .05$)		

Hypothesis 2:
Recall of the Complex Commercial across Conditions

This hypothesis predicted the same relationship between visual, audio-visual, and aural for the complex commercial as was predicted above for the simple commercial. It too was confirmed

using an analysis of variance to test mean recall scores. Learning was equal in the visual and audio-visual conditions, and audio was again significantly inferior. Table 2 points out that in this case, subjects in the visual and audio-visual conditions could identify sales points and foils, on the average, seven times out of ten. In the audio conditions, subjects averaged about five out of ten correct identifications. By increasing the complexity of the message from five to ten sales points, learning was reduced, on the average, about ten percent in each condition.

Table 2

Recall of the Complex Commercial
(Westinghouse)

	Condition		
	Aural	Audio-visual	Visual
Sales Points	10	10	10
Sales Points and Foils	20	20	20
n	44	40	23
Total Possible Correct	880	800	460
Actual Correct	455	570	315
Percent Correct	51.7	71.3	68.5
F Value	17.4 ($p < .05$)		

Hypothesis 3: Recall within the Visual Condition

The mean visual recall scores for the simple and complex commercials were compared; as hypothesized, learning was greater for the simple commercial than for the complex commercial, but the difference was not significant. It cannot be said that increasing the complexity of the commercial within the visual condition significantly decreases recall of sales points. In this case, the complexity was increased from five to ten sales points and the difference in recall was not significant; quite possibly a greater increase in complexity (e.g., from one to ten sales points) would produce a significant difference. See Table 3.

Table 3

Recall within the Visual Conditions

	Commercial	
	Sylvania	Westinghouse
Sales Points	5	10
Sales Points and Foils	10	20
n	23	23
Total Possible Correct	230	460
Actual Correct	185	315
Percent Correct	80.4	68.5
t Value	.183, N.S.	

Hypothesis 4:
Recall within the Audio-Visual Condition

This time the mean audio-visual recall scores for the simple and complex commercials were compared; again the difference was in the direction predicted, but the results were not significant. See Table 4. Even with ten sales points in the complex commercial, recall was not significantly inferior to the simple commercial. Again, by increasing the difference in levels of complexity (e.g., from one to ten sales points), a significant difference might be obtained. Presently, however, it cannot be said that increasing the complexity of the message within the audio-visual conditions results in significantly decreased learning.

Table 4

Recall within the Audio-Visual Conditions

	Commercial	
	Sylvania	Westinghouse
Sales Points	5	10
Sales Points and Foils	10	20
n	40	40
Total Possible Correct	400	800
Actual Correct	318	570
Percent Correct	79.5	71.3
t Value	.179, N.S.	

Hypothesis 5: Recall within the Audio Condition

Finally, mean audio recall scores for the simple and complex commercials were compared. Again the results were in the direction predicted, but learning was not significantly greater for the simple commercial than for the complex commercial. See Table 5. Even with ten sales points, learning of the complex commercial was only about 11 percent inferior. On the basis of present evidence, it cannot be claimed that increasing complexity within the audio condition results in significantly lower recall scores.

Table 5

Recall within the Audio Conditions

	Commercial	
	Sylvania	Westinghouse
Sales Points	5	10
Sales Points and Foils	10	20
n	44	44
Total Possible Correct	440	880
Actual Correct	275	455
Percent Correct	62.5	51.7
t Value	.179, N.S.	

VII. DISCUSSION

The findings for hypotheses one and two lend strong support to the van Mondfrans and Travers study. The present study reports a tendency for all modalities to become increasingly inferior as the complexity of the material increases, however, while van Mondfrans and Travers report increasing inferiority only for audition. The present study clearly disagrees with the more dated research reviewed; the visual and audio-visual modes produced essentially equal learning, while the aural was clearly inferior in both conditions.

The Selection and Blocking of Stimuli

Tape recordings and classroom laboratories may have contributed to the poor showing in the aural condition. Subjects were seated at different distances from the recorder, so a "listenable" level was difficult to maintain for all. On the other hand, in both the visual and the audio-visual conditions subjects had the commercials available, and were instructed not to "block out" the material by looking away (i.e., they were instructed to

"read . . . carefully). While in the aural conditions subjects were also instructed to "listen carefully," their physical surroundings may have proven detrimental.

Dimensions for Coding

Again, the physical situation may have favored the visual and audio-visual conditions by facilitating ease of coding. Recall that location is rather unsatisfactory as a coding device for audition, as is intensity. Both of these dimensions were beyond the subjects' control (i.e., they were not free to move to a position where it was easier to hear). Visually, however, length, width, intensity, and distance as codable dimensions could be somewhat controlled by the subject. If he had trouble reading, he might hold the copy closer; if his copy were a faint reproduction, he could turn toward the light, etc.

van Mondrans and Travers pointed out the difficulty of controlling the rate of transmission. Thus, because material was presented aurally at the sequential rate of the announcer, and the visual material could be transmitted simultaneously, regulated only by the reading speed of the subject, referability probably was rampant in the visual condition. Since college students often read with a "set" to recall, referability is again suggested as a possible cause. Klapper summarizes this control of exposure cogently:

> . . . print alone leaves the reader capable of proceeding at whatever pace he may find consistent with his capabilities and interests. He may scan, skip, or plod, as he pleases, and thus not need suffer the boredom or bewilderment which the pace and content of the other media may engender.[23]

Redundancy in Simultaneous Transmission

The Travers model of information transmission suggests that as redundancy increases, channel switching can occur with a minimal loss of information. In the present case, the audio-visual information was one hundred percent redundant; hence, the subjects could concentrate on that sensory mode offering them the most advantages. Indeed, it appears from the data that if the visual mean is taken as an approximation to maximum recall in this situation, no significant loss was suffered by subjects in the audio-visual condition.

This explanation readily accounts for the reversal of visual and audio-visual conditions found in hypothesis two. The Travers model posits that as audio-visual redundancy is increased, it will approach the visual level in efficiency. Since this experiment tested one hundred percent redundancy, chance would predict that half the time audio-visual would be superior to visual, and half the time the order would be reversed; on the average, however, given one hundred percent redundancy, they should be equally effective. Indeed, this was exactly the case here.

F. Dean McClusky has included a chapter in his book summarizing research in audio-visual educational situations.[24] Again it should be noted that none of these studies was conducted after 1935. Generally speaking, these researchers found audio-visual education to be superior to the lecture (aural) presentation. No research is reported comparing vision and audio-vision, however. J. J. Weber did report that audio-vision decreases in effectiveness as the complexity of the material increases.[25] While this was not supported in hypothesis four, the present findings are in the same direction. Carver reported, in line with the van Mondfrans and Travers studies, and hypothesis five above, that audition also varies inversely in effectiveness with the difficulty of the material.[26] More recently, Baldwin found that the recall of both audio and visual elements which are presented simultaneously in a message is positively related to redundancy in the audio-visual relationship.[27]

A word of caution is in order regarding the external validity of these findings. The generalizability of experimental findings to the real world increases as the laboratory conditions approach real world conditions. This principle of external validity, then, demands caution in discussing the audio-visual research cited above. "Reading while hearing" (the laboratory condition) is not equivalent to

"viewing while hearing" with moving pictures. Similarly, in the visual condition, reading a print transcript of a radio commercial is not equivalent to reading a magazine ad with an illustration, a border, a logotype, etc.

Nevertheless, it can be said that audio presentation may be the least efficient method of presenting commercial information, since learning was substantially inferior in the audio conditions. On the other hand, for material that is 100 percent redundant, visual and audio-visual presentations appear equally efficient for information transmission, significantly superior to audio.

VIII. CONCLUSIONS

At this point it may be said that there is an apparent significant relationship between learning of commercial messages and method of presentation. The same general relationship seems to hold as the complexity of the material is increased, although there is some variation. Within each method of presentation, as expected, learning of the material declined as the complexity of the material increased, although the decline was not significant.

Hypothesis 1: Recall of the Simple Commercial across Conditions

The relationship here is significant and in the predicted direction. As the Travers model predicts, visual and audio-visual are equally efficient, and both are clearly superior to audio for transmitting information. In the present case, referability and coding dimensions are suspected to account for this difference. Subjects could not refer back to aural material presented sequentially, and, in addition, they had to decode the quizzes visually. This is not substantially different from real world conditions (e.g.,

recognizing a slogan from a radio ad), however, and underscores the inefficiency of audio message presentation.

Hypothesis 2: Recall of the Complex Commercial across Conditions

The relationship here is also significant, with visual equal to audio-visual, and audio again clearly inferior to both. Here the order of superiority was reversed, with audio-visual slightly superior to visual. This reversal is not surprising, and is easily explained by the Travers model when testing material that is one hundred percent redundant.

Generally, increasing complexity across conditions resulted in about 10 percent lowered recall of sales points. It is suggested that the subjects' short-term memory was being severely tried with an excess of material to remember. Any further increase in complexity would probably drive recall scores lower yet.

Hypothesis 3: Recall within the Visual Condition

Here the relationship was in the direction posited, but the relationship was not significant at the level tested. Learning did decrease as the complexity of the material increased within the visual condition, however.

Compared to the other conditions, sample size here was small; given a larger sample size, a significant difference might have been obtained. Nevertheless, on the basis of the present evidence, it must be concluded that increasing complexity within the visual condition does not significantly decrease recall.

Hypothesis 4: Recall within the Audio-Visual Condition

As predicted, learning again decreased as the complexity of the material increased within the audio-visual condition, but the decrease was not significant at the level tested. This conclusion must be understood in terms of the definition of "complexity" employed. In the present case, complexity was a function of the number of sales points in each commercial; the material presented audio-visually was one hundred percent redundant. An interesting modification of "complexity" would be reduction in redundancy of the material presented, resulting in increased complexity. Here the Travers model would predict decreasing recall with increasing complexity. For the time being, given the present definition of complexity, it must be concluded that increasing complexity within the audio-visual condition does not result in a significant decrease in learning.

Hypothesis 5: Recall within the Audio Condition

Within the audio condition, learning declined as the complexity of the material increased, but the decline was not significant at the level tested. Again subjects were apparently able to cope with increasing complexity with minimal difficulty. It is interesting to note, however, that the complex aural condition produced the lowest mean recall score of all six conditions. On the average, subjects in this condition were just over 50 percent accurate in discriminating between sales points and foils. Simply by marking one response consistently (e.g., all "were" included responses), the subject could have scored 50 percent correct! For the complex audio condition, message transmission seems to have facilitated little more than chance recall. For the present hypothesis, however, it must be concluded that increasing complexity within the audio condition does not result in a significant decrease in recall.

Future Research

Several opportunities suggest themselves from the present study. It has been shown that increasing the complexity of the material decreases the learning, but differing levels of complexity need to be tested. At what point does material cease to be "simple" and become "complex"? Does the actual "break" occur after just

one sales point, or two, three, four, etc.? Is this "break" unique to each method of presentation or is there a "common break" applicable across all methods? The Unique Selling Proposition suggests that repeating one main idea several different ways increases learning, and is intuitively logical. Actual empirical evidence, however, remains to be collected.

It was noted above that the background music may have caused some masking of the audio message. Since background music is extremely common in many types of commercial presentation, the extent of masking must be explored. How does intensity of music affect masking? How about music with lyrics versus music without lyrics? How about type of music--rock, jazz, "long hair"--is there an interaction between type of music and type of audience?

Although subjects were instructed not to think back to any other commercials, prior exposure may have been a factor. Not unrelated is prior product usage, although this particular group of subjects had little reason to be exposed to these products. This situation could vary, of course, with type of consumer and type of product.

Subjects in this experiment were relatively homogeneous, but certainly this is not the case in the marketplace, where learning and method of presentation might well interact with age or education.

As such, the experimenter is behooved to vary receiver composition as well as channel and complexity.

Finally, it is quite possible that recall will vary substantially over time. In this case, audio presentations might not be the least efficient. A delayed recall test should be administered to test for the most efficient method of presentation for recall over time.

FOOTNOTES

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[15]See Robert M. W. Travers et al., Audiovisual Information Transmission.

[16]Day and Beach, Survey of the Literature, cited in Travers et al., Audiovisual Information Transmission, pp. 103-104.

[17]Klapper, Effects of Mass Media, p. II-6.

[18]Travers et al., Audiovisual Information Transmission, pp. 105-112.

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APPENDIX

INSTRUCTIONS AND QUESTIONNAIRES

VISUAL CONDITIONS

VISUAL CONDITIONS

Instructions

You're going to participate in a brief study for the advertising department. Since I'm going to read the instructions aloud, I'll ask for complete silence during the study so everyone can hear clearly.

I'm going to pass out a booklet to each of you; when you receive your copy, please fill in the information on the cover, but don't continue to page two yet (PASS OUT BOOKLETS; PAUSE). Is everyone finished? (PAUSE).

Now, when I give the signal, you will have exactly one minute to read carefully the commercial on page two. Read only the commercial on page two--don't continue to page three yet. When the minute is up, I'll signal for you to shut your booklets. Are there any questions? (PAUSE) OK, turn to page two and read the commercial carefully (START WATCH. PAUSE ONE MINUTE). Stop! Please close your booklets.

When you're directed to open to page three, you'll find a list of sales points. Some of these were in the commercial you just

read and some were not. Indicate in the spaces provided those which you are certain were in the commercial, those which might have been but you're not really sure about, and those which you are certain were not in the commercial. Be sure to consider only the commercial you just read--don't think back to others you may have seen. Work quickly but carefully until you're finished. Please double ckeck to make sure you answer all the items. Are there any questions? (PAUSE) OK, begin working on page three.

Is everyone finished? (PAUSE) OK, when I give the signal, you will have exactly one minute to read carefully the commercial on page four. Read only the commercial on page four--don't refer back or continue ahead. When the minute is up, I'll signal for you to close your booklets. Are there any questions? (PAUSE) OK, turn to page four and read the commercial carefully (START WATCH. PAUSE ONE MINUTE). Stop! Please close your booklets.

When you're directed to open to page five, you'll find another list of sales points. As before, some of these were in the commercial you just read and some were not. Indicate in the spaces provided those which you are certain were in the commercial, those which might have been but you're not really sure about, and those which you are certain were not in the commercial. Consider only the commercial you just read--don't think back to any others.

Work quickly but carefully until you're finished. Please double check to make sure you answered all the items. Are there any questions? (PAUSE) OK, begin working on page five.

INFORMATION TRANSMISSION STUDY

MICHIGAN STATE UNIVERSITY

JUNE, 1971

Please fill in all of the information below; if you're not certain of some of the information, please answer it to the best of your knowledge.

NAME:

SEX:

AGE:

GPA:

YEAR IN SCHOOL:

NUMBER OF ADVERTISING COURSES YOU'VE TAKEN, EXCLUDING THIS CLASS:

STOP!

Please do not turn to the next page until directed to do so

WESTINGHOUSE COMMERCIAL

(MUSIC UNDER)

Get in on the action during the Hager-Fox Eighth Annual Tent Sale. Enjoy hot-dogs and coke only 15¢ during the sale. And find many great values, too. Get a 30 inch double oven continental range from Westinghouse. With two ovens you can cook a complete meal at the correct temperatures. No more juggling to try not to over-cook or under-cook the three or four items in your single oven. Both ovens have windows that allow you to keep an eye on the cooking, a storage drawer, clock, and automatic timing setter, infinite heat controls, and plug-out burners. But there is a limited supply only. Available in white and avacado, a regular $399.95 value, specially tent-priced at only $329.95. You save $70. Don't miss this fantastic savings opportunity now at Hager-Fox Home Center. And remember, Westinghouse means reliable service and convenience. Shop and save today. Hager-Fox Home Center, 1115 South Pennsylvania, open daily till 9, Saturdays till 5:30 during the tent sale.

STOP!

Close your booklet.

WESTINGHOUSE COMMERCIAL

	SALES POINT	Were	Might Have Been	Were Not
1.	Both ovens light up	( )	( )	( )
2.	Jury Rowe will be open Saturdays during the sale	( )	( )	( )
3.	Jury Rowe means reliable service and convenience	( )	( )	( )
4.	This is the store's eighteenth annual sale	( )	( )	( )
5.	The range is available in three colors	( )	( )	( )
6.	The range is covered by a money back warranty	( )	( )	( )
7.	The range has a timing setter	( )	( )	( )
8.	There is a storage drawer in the range	( )	( )	( )
9.	A clock is included	( )	( )	( )
10.	No more over cooking or under cooking	( )	( )	( )
11.	There is a warranty that extends for six months	( )	( )	( )
12.	Two ovens allow cooking a complete meal at the correct temperatures	( )	( )	( )
13.	Heat is regulated by infinite heat controls	( )	( )	( )
14.	Westinghouse is offering a 40 inch double oven range	( )	( )	( )
15.	You save $70	( )	( )	( )
16.	Plug out burners are included with the range	( )	( )	( )
17.	Both ovens in the range have windows	( )	( )	( )
18.	The continental range is available in gas and electric models	( )	( )	( )
19.	Both ovens in the range have broilers	( )	( )	( )
20.	The range is sale priced at only $329.95	( )	( )	( )

STOP!

Please close your booklet

SYLVANIA COMMERCIAL

(MUSIC UNDER)

Tired of watching a blurry picture tube? Maybe it's time you thought about a new TV. If you're thinking about it, stop into Hager-Fox Home Center and check the great values on Sylvania color, and black and white TV during their Home Value Days. Get a giant 25 inch screen console in a real walnut cabinet with outstanding Sylvania styling, yours for just $549.95. You'll find other consoles starting at $199.95. Whatever you're looking for in home entertainment units, Sylvania makes it and Hager-Fox carries it. You'll find a large selection of AM-FM radios, along with the many other exciting home entertainment units by Sylvania in the Hager-Fox entertainment show case. Stop in and browse. You're sure to find just what you're looking for at the price you want to pay, and at Hager-Fox you get more than just a product, you get that famous unbeatable red carpet service. Stop and compare. Then buy from Hager-Fox Home Center, 1115 South Pennsylvania during their Home Value Days.

STOP!

Close your booklet.

SYLVANIA COMMERCIAL

	SALES POINT	Were	Might Have Been	Were Not
1.	This store has a large selection of AM-FM stereo radios	( )	( )	( )
2.	Jury Rowe, 5602 South Cedar, is open Sundays until 6:00	( )	( )	( )
3.	Sylvania has "acutron" color tuning	( )	( )	( )
4.	The console cabinets are real walnut	( )	( )	( )
5.	These radios are solid state, dual channel	( )	( )	( )
6.	AM-FM stereo radios are available up to $199.00	( )	( )	( )
7.	This store gives you unbeatable red carpet service	( )	( )	( )
8.	The consoles are on sale for $549.95	( )	( )	( )
9.	Sylvania consoles are available in a large selection of wood grain finishes	( )	( )	( )
10.	Sylvania is offering a 25 inch screen console	( )	( )	( )

STOP!

Please close your booklet

AUDIO-VISUAL CONDITIONS

AUDIO-VISUAL CONDITIONS

Instructions

You're going to participate in a brief study for the advertising department. Since I'm going to read the instructions aloud and you'll be hearing a tape, I'll ask for complete silence during the study so everyone can hear clearly.

I'm going to pass out a booklet to each of you; when you receive your copy, please fill in the information on the cover, but don't continue to page two yet (PASS OUT BOOKLETS; PAUSE). Is everyone finished? (PAUSE).

Now, when I give the signal, you will have exactly one minute to read the commercial on page two as you listen to it on the tape. Don't continue to page three yet. When the minute is up, I'll signal for you to shut your booklets. Are there any questions? (PAUSE) OK, turn to page two and read the commercial as you listen to it on the tape (PLAY FIRST COMMERCIAL).

When you're directed to open to page three, you'll find a list of sales points. Some of these <u>were</u> in the commercial you were just exposed to and some <u>were not</u>. Indicate in the spaces

provided those which you are certain were in the commercial, those which might have been but you're not really sure about, and those which you are certain were not in the commercial. Be sure to consider only the commercial you were just exposed to--don't think back to any others you may have seen or heard. Work quickly but carefully until you're finished. Please double check to make sure you answer all the items. Are there any questions? (PAUSE) OK, begin working on page three.

Now, when I give the signal, you will have exactly one minute to read the commercial on page four as you listen to it on the tape. Don't continue to page five yet. When the minute is up, I'll signal for you to shut your booklets. Are there any questions? (PAUSE) OK, turn to page four and read the commercial as you listen to it on the tape (PLAY SECOND COMMERCIAL).

When you're directed to open to page five, you'll find another list of sales points. As before, some of these were in the commercial you were just exposed to and some were not. Indicate in the spaces provided those which you are certain were in the commercial, those which might have been but you're not really sure about, and those which you are certain were not in the commercial. Consider only the commercial you were just exposed to --don't think back to any others. Work quickly but carefully until

you're finished. Please double check to make sure you answered all the items. Are there any questions? (PAUSE) OK, begin working on page five.

INFORMATION TRANSMISSION STUDY

MICHIGAN STATE UNIVERSITY

JUNE, 1971

Please fill in all of the information below; if you're not certain of some of the information, please answer it to the best of your knowledge.

NAME:

SEX:

AGE:

GPA:

YEAR IN SCHOOL:

NUMBER OF ADVERTISING COURSES YOU'VE TAKEN, EXCLUDING THIS CLASS:

STOP!

Please do not turn to the next page until directed to do so

SYLVANIA COMMERCIAL

(MUSIC UNDER)

Tired of watching a blurry picture tube? Maybe it's time you thought about a new TV. If you're thinking about it, stop into Hager-Fox Home Center and check the great values on Sylvania color, and black and white TV during their Home Value Days. Get a giant 25 inch screen console in a real walnut cabinet with outstanding Sylvania styling, yours for just $549.95. You'll find other consoles starting at $199.95. Whatever you're looking for in home entertainment units, Sylvania makes it and Hager-Fox carries it. You'll find a large selection of AM-FM radios, along with the many other exciting home entertainment units by Sylvania in the Hager-Fox entertainment show case. Stop in and browse. You're sure to find just what you're looking for at the price you want to pay, and at Hager-Fox you get more than just a product, you get that famous unbeatable red carpet service. Shop and compare. Then buy from Hager-Fox Home Center, 1115 South Pennsylvania during their Home Value Days.

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SYLVANIA COMMERCIAL

	SALES POINT	Were	Might Have Been	Were Not
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2.	Jury Rowe, 5602 South Cedar, is open Sundays until 6:00	( )	( )	( )
3.	Sylvania has "acutron" color tuning	( )	( )	( )
4.	The console cabinets are real walnut	( )	( )	( )
5.	These radios are solid state, dual channel	( )	( )	( )
6.	AM-FM stereo radios are available up to $199.00	( )	( )	( )
7.	This store gives you unbeatable red carpet service	( )	( )	( )
8.	The consoles are on sale for $549.95	( )	( )	( )
9.	Sylvania consoles are available in a large selection of wood grain finishes	( )	( )	( )
10.	Sylvania is offering a 25 inch screen console	( )	( )	( )

STOP!

Please close your booklet

WESTINGHOUSE COMMERCIAL

(MUSIC UNDER)

Get in on the action during the Hager-Fox Eighth Annual Tent Sale. Enjoy hot-dogs and coke only 15¢ during the sale. And find many great values, too. Get a 30 inch double oven continental range from Westinghouse. With two ovens you can cook a complete meal at the correct temperatures. No more juggling to try not to over-cook or under-cook the three or four items in your single oven. Both ovens have windows that allow you to keep an eye on the cooking, a storage drawer, clock, and automatic timing setter, infinite heat controls, and plug-out burners. But there is a limited supply only. Available in white and avacado, a regular $399.95 value, specially tent-priced at only $329.95. You save $70. Don't miss this fantastic savings opportunity now at Hager-Fox Home Center. And remember, Westinghouse means reliable service and convenience. Shop and save today. Hager-Fox Home Center, 1115 South Pennsylvania, open daily till 9, Saturdays till 5:30 during the tent sale.

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	SALES POINT	Were	Might Have Been	Were Not
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2.	Jury Rowe will be open Saturdays during the sale	( )	( )	( )
3.	Jury Rowe means reliable service and convenience	( )	( )	( )
4.	This is the store's eighteenth annual sale	( )	( )	( )
5.	The range is available in three colors	( )	( )	( )
6.	The range is covered by a money back warranty	( )	( )	( )
7.	The range has a timing setter	( )	( )	( )
8.	There is a storage drawer in the range	( )	( )	( )
9.	A clock is included	( )	( )	( )
10.	No more over cooking or under cooking	( )	( )	( )
11.	There is a warranty that extends for six months	( )	( )	( )
12.	Two ovens allow cooking a complete meal at the correct temperatures	( )	( )	( )
13.	Heat is regulated by infinite heat controls	( )	( )	( )
14.	Westinghouse is offering a 40 inch double oven range	( )	( )	( )
15.	You save $70	( )	( )	( )
16.	Plug out burners are included with the range	( )	( )	( )
17.	Both ovens in the range have windows	( )	( )	( )
18.	The continental range is available in gas and electric models	( )	( )	( )
19.	Both ovens in the range have broilers	( )	( )	( )
20.	The range is sale priced at only $329.95	( )	( )	( )

STOP!

Please close your booklet

AUDIO CONDITIONS

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You're going to participate in a brief study for the advertising department. Since I'm going to read the instructions aloud and you'll be hearing a tape, I'll ask for complete silence during the study so everyone can hear clearly.

I'm going to pass out a booklet to each of you; when you receive your copy, please fill in the information on the cover, but don't continue to page two yet (PASS OUT BOOKLETS; PAUSE). Is everyone finished?

Now, when I start the tape, you will have exactly one minute to listen carefully to the commercial. Listen only to the commercial on the tape--leave your booklet closed. When the minute is up, I'll give you further instructions. Are there any questions? (PAUSE) OK, listen carefully to the commercial (PLAY FIRST COMMERCIAL).

When you're directed to open to page two, you'll find a list of sales points. Some of these were in the commercial you just heard and some were not. Indicate in the spaces provided those

which you are certain were in the commercial, those which might have been but you're not really sure about, and those which you are certain were not in the commercial. Be sure to consider only the commercial you just heard--don't think back to any others you may have heard. Work quickly but carefully until you're finished. Please double check to make sure you answer all the items. Are there any questions? (PAUSE) OK, begin working on page two.

Is everyone finished? (PAUSE) OK, when I start the tape again, you will have exactly one minute to listen carefully to the commercial. Listen only to the commercial on the tape--leave your booklet closed. When the minute is up, I'll give you further instructions. Are there any questions? (PAUSE) OK, listen carefully to the commercial. (PLAY SECOND COMMERCIAL).

When you're directed to open to page three, you'll find another list of sales points. As before, some of these were in the commercial you just heard and some were not. Indicate in the spaces provided those which you are certain were in the commercial, those which might have been but you're not really sure about, and those which you are certain were not in the commercial. Consider only the commercial you just heard--don't think back to any others. Work quickly but carefully until you're finished. Please double ckeck to make sure you answered all the items. Are there any questions? (PAUSE) OK, begin working on page three.

INFORMATION TRANSMISSION STUDY

MICHIGAN STATE UNIVERSITY

JUNE, 1971

Please fill in all of the information below; if you're not certain of some of the information, please answer it to the best of your knowledge.

NAME:

SEX:

AGE:

GPA:

YEAR IN SCHOOL:

NUMBER OF ADVERTISING COURSES YOU'VE TAKEN, EXCLUDING THIS CLASS:

STOP!

Please do not turn to the next page until directed to do so

SYLVANIA COMMERCIAL

	SALES POINT	Were	Might Have Been	Were Not
1.	This store has a large selection of AM-FM stereo radios	( )	( )	( )
2.	Jury Rowe, 5602 South Cedar, is open Sundays until 6:00	( )	( )	( )
3.	Sylvania has "acutron" color tuning	( )	( )	( )
4.	The console cabinets are real walnut	( )	( )	( )
5.	These radios are solid state, dual channel	( )	( )	( )
6.	AM-FM stereo radios are available up to $199.00	( )	( )	( )
7.	This store gives you unbeatable red carpet service	( )	( )	( )
8.	The consoles are on sale for $549.95	( )	( )	( )
9.	Sylvania consoles are available in a large selection of wood grain finishes	( )	( )	( )
10.	Sylvania is offering a 25 inch screen console	( )	( )	( )

STOP!

Please close your booklet

WESTINGHOUSE COMMERCIAL

	SALES POINT	Were	Might Have Been	Were Not
1.	Both ovens light up	( )	( )	( )
2.	Jury Rowe will be open Saturdays during the sale	( )	( )	( )
3.	Jury Rowe means reliable service and convenience	( )	( )	( )
4.	This is the store' s eighteenth annual sale	( )	( )	( )
5.	The range is available in three colors	( )	( )	( )
6.	The range is covered by a money back warranty	( )	( )	( )
7.	The range has a timing setter	( )	( )	( )
8.	There is a storage drawer in the range	( )	( )	( )
9.	A clock is included	( )	( )	( )
10.	No more over cooking or under cooking	( )	( )	( )
11.	There is a warranty that extends for six months	( )	( )	( )
12.	Two ovens allow cooking a complete meal at the correct temperatures	( )	( )	( )
13.	Heat is regulated by infinite heat controls	( )	( )	( )
14.	Westinghouse is offering a 40 inch double oven range	( )	( )	( )
15.	You save $70	( )	( )	( )
16.	Plug out burners are included with the range	( )	( )	( )
17.	Both ovens in the range have windows	( )	( )	( )
18.	The continental range is available in gas and electric models	( )	( )	( )
19.	Both ovens in the range have broilers	( )	( )	( )
20.	The range is sale priced at only $329.95	( )	( )	( )

STOP!

Please close your booklet

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