A STUDY OF COMMUNICATOR'S TELECASTING AGRICULTURAL MESSAGES AND THEIR WARM, COLD PERSONALITY QUALITIES

Thesis for the Degree of M. A.

MICHIGAN STATE UNIVERSITY

James Paxton Marshall

1957

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By

James Paxton Marshall

AN ABSTRACT

Submitted to the College of Communication Arts of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Department of General Communication Art

1957

Approved Paul J. Deutschmann

The purpose of this study was to select and test an objective method of selecting communicators; and to determine audience attitude toward, and learning from, the selected communicators.

The theoretical formulation was based upon work of other investigators who have studied the personality quality "warm-cold." These studies indicate that temperament characteristics are important in the individuals perception of another person as "warm" or "cold."

Two hypotheses were developed from the theoretical formulation: (1) the audience members would perceive the degree of the personality quality "warm-cold" possessed by the selected communicators and would rank them as possessing this quality via a discriminating instrument in the same order as the instrument used to select them; (2) the audience would evaluate the communicator perceived as "warm" most positively, and learning by the audience members would correlate positively with this evaluation.

The Guilford-Zimmerman Temperament Survey was selected as the objective instrument to test. This instrument was administered to 14 advanced speech students. Four communicators were selected from this group on the basis of their scores and profiles on the temperament traits in the cluster isolated for study. The communicators were arbitrarily designated

"warm" when possessing high trait scores and "cold" when possessing low trait scores, and are referred to by numbers 1, 2, 3, 4, representing "warm" to "cold" respectively.

Two messages equated for length, difficulty, human interest, and lack of message interest were presented for kinescope recording by each communicator. These kinescopes were viewed by 8 audiences, four containing 140 college students, and four containing 85 students of Stockbridge Community High School, Stockbridge, Michigan. Each audience viewed two communicators; each one presenting a different message.

The attitudes expressed by the subjects were evaluated via a 3 scale semantic differential. The cloze procedure was used as a measure of learning.

The hypotheses were not supported. The communicators were consistently evaluated as "warm" in 4, 2, 3, 1 order regardless of audience, message, or position. Communicators 4 and 2 were perceived and evaluated as possessing significantly more of a personality quality "warm" than communicators 3 and 1.

The audiences did learn from the messages and the communicators at different levels; but the differences were not statistically significant.

When asked to designate one of two communicators viewed "cold" audience members always designated that communicator who received the most negative attitude rating. When audience attitudes were of equal intensity members were unable to designate one communicator "cold."

It is concluded that a personality quality exists which audiences perceive and verbally describe as "warm-cold." The term "warm" being indicative of positive attitudes and "cold" indicative of negative attitudes.

Before conclusions concerning the temperament profiles of communicators perceived as "warm" are reached, further research is required.

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ACKNOWLEDGEMENTS

The writer is particularly indebted to the four communicators who were the principals for this thesis. Obviously without their cooperation this study would not exist.

Dr. Paul J. Deutschmann must receive special acknowledgement as director of this thesis, and patiently fulfilling the dual role of adviser and disciplinarian.

The writer wishes to express his thanks to Mr. Stanley Andrews, Executive Director, of the National Project in Agricultural Communication for extending financial assistance via a graduate assistantship; and to Dr, John M. Parsey, Research Director, for the Project, who has enlightened me on many facets of communication, education, and research.

To name each of the many other persons associated with the conduct of this study is impractical. However, appreciation is expressed to Dr. Jack M. Bain, Dr. David C. Ralph, Major James Hancy, and Mr. Donovan Cronkhite for permission to use groups under their direction as sources of viewing subjects.

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INTRODUCTION

The success of a television program is determined by the favorable audience response it receives and maintains. This response indicates that the communication process has been satisfactorily consummated. To obtain this result, a program must present either a communicator, or a message, or both, with which the audience achieves a "commonness." That is, this program message must convey "a bit of information, an idea, or an attitude"[1] to the audience; the audience members, in turn, accept the program message, because they are favorable towards it, or because it emanates from this particular source.

To a much greater degree than in other media, audience acceptance of a television message is dependent upon its acceptance of the communicator, too. The communicator in this medium is not only a message source, but is virtually an integral part of the message. In this respect, television is unique among the mass media, for it alone permits simultaneous--and full--audience response to the communicator as well as to the message, at the instant of delivery.

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[1]Wilbur Schramm, "How Communication Works," The Process and Effects of Mass Communications, ed. Wilbur Schramm, (University of Illinois Press, Urbana, Illinois, 1954), p. 3.

However, all television programs do not depend upon the communicator-message combination to an equal extent. One who observes or studies the media will recognize many gradations and combinations of the communicator-message team. For example, some agricultural programs are probably more successful because of their message than because of the communicator. Agricultural service type programs covering commodity and livestock markets, weather reports, etc., may be cited as an example. These programs are aimed directly at audience interests. The communicator is often simply the message conveyor. In such circumstances he may have little or no effect upon its acceptance.

At the same time, many agricultural programs are not as clearly linked to immediate audience interests. One way to characterize these is to note that they are more difficult for audiences to understand. In general, programs may be conceived as varying in difficulty from those that require a minimum mental interpretative effort to receive to those that require a maximum mental and physical effort to receive, interpret, and apply. The communicator tends to become a more important part of the communicator-message team as the difficult end of the continuum is approached with agricultural programs--or any other kind.

There is a continuous demand from the television industry for producers of agricultural programs to increase the size of their audience; that is, to obtain a "commonness" with more individuals. At the same time there is also

a desire on the part of producers of television programs for agriculture to convey messages about subject matters that are difficult, or not of compelling and immediate interest to the audience. If the audience becomes too small, the television industry solves the problem by eliminating the offending program. To prevent this the agricultural program producers have some alternatives. One is to make such changes in the messages as are possible within the limits of their goals. Another is to change the communicator, seeking to get those individuals whose personal effectiveness will "carry the message" despite its difficulty or lack of immediate interest.

Statement of the Problem

Since the success of a television program is determined, in part, by how the audience accepts or rejects the communicator, it is desirable that some criteria for preselecting the communicator be established. One criterion is "personality" as subjectively evaluated by the producer or station operator. This is normally a procedure reserved for a small sample of critical eyes. Quite often audiences have not agreed with the selection. This has been particularly true when the communicator's responsibility was to reach a minority group--such as the agricultural audience.

But, what other criteria or method of establishing them are there by which to evaluate communicators? Do successful communicators possess particular personality patterns that may be objectively determined? Does the audience

respond to intangible aspects of personality they perceive? The answers to these questions are not known even though much research in television, and communication generally, has been completed.

It is the purpose of this study to test an objective means of selecting a communicator; to determine how the audience evaluates the selected communicators' personality qualities when they are viewed via television; and to determine the effect of differences in communicators upon audience learning.

The complexity of the human personality makes it imperative to limit the extent of this individual evaluation. Therefore, the scope of this study is limited to the "warm-cold" concept of personality qualities studied by Asch,[2] and supported by additional empirical work.

Definition of terms:

1. Personality--Personality is the dynamic organization within the individual of those psychological systems that determine his unique adjustments to his environment.[3]

2. "Warm"--an individual who tends to be stable in interests and moods, optimistic, composed, cheerful, altruistic, tolerant, respectful, and sincere.

3. "Cold"--an individual who tends to be unstable in interests and moods, pessimistic,

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[2]S. E. Asch, "Forming Impressions of Personality," Journal of Abnormal and Social Psychology, XLI (September, 1946), pp. 258-290.

[3]G. W. Allport, Personality, A Psychological Interpretation, (New York, Henry Holt and Company, 1937), p. 48.

gloomy, excitable, egotistic, intolerant, dominant, contemptful, and insincere.

Limitations Imposed

This study is limited by the following direct design factors and methodological procedures.

1. The messages were of restricted agricultural topics, and were judged to have minimal message interest.
2. Lecture was selected as a method of presenting the messages to eliminate any support the communicator might receive from other methods of presentation.
3. The sample from which the communicators were selected was extremely small and introduces a severe limitation upon the study.
4. Audiences viewing programs, evaluating the communicators, and demonstrating their learning included only college and high school students.

Justification of the Study

A research project investigating the communication process, if properly designed, has intrinsic merit. Though a universal process, communication has undergone relatively little experimental study. Therefore, any results obtained by investigating a minute facet of this complex process may help establish communication theory. Further, even if no clear-cut results are obtained, information about design and procedural problems might aid other investigators.

This study is unique in the research concerning the communication process. Many studies have been concerned

with reactions of people to verbal cues of personality. Likewise, many studies of how people perceive others by pictures, in person, and other means have been reported. However, no study has been reported of the ability of people to recognize "warm-cold" personality qualities established by an objective criterion and their effect--or lack of it--upon audience learning in a television-type situation.

Every research study is distinctive, because no other one uses exactly the same subjects, methods, or procedures. Therefore, to replicate a study exactly is impossible. However, the exactness with which a study is described and executed makes relative replication possible. Later studies following these original procedures and producing corresponding results then can serve to broaden the base for application and support of the original study. This study is distinctive, for it opens a new area of investigation, and simultaneously can support previous studies relating to television.

Sources and Materials

This thesis is of necessity developed from several areas of knowledge. Background materials were drawn from literature relating to the mass communication process, psychological literature of personality (particularly Asch's works relating to "warm-cold" personality qualities), and literature relating to television.

Two groups of subjects represent the source of data.

The first includes 14 speech students from whom the communicators were selected. The second contained 140 college, and 85 high school students who were divided into eight audiences.

A standardized test, the Guilford-Zimmerman Temperament Survey, was selected as the instrument to differentiate between "warm" and "cold" communicators. Agricultural research and information publications were background materials for the test messages. The communicator evaluating instrument was the semantic differential, developed by Osgood.[4] The cloze procedure, a method developed by Taylor,[5] was selected to measure learning.

Plan of Organization

The reader will find previous research relating to the problem in Chapter II. Included are studies of the perception of "warm-cold" personality qualities, work relating to the effect of source upon the message, and relevant research in television.

The theoretical formulation of this study, and the statement of the hypotheses are found in Chapter III. In Chapter IV the design and method are explained. Chapter V

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[4]Charles E. Osgood, Report on Development and Application of the Semantic Differential, (Institute of Communications Research and Department of Psychology, University of Illinois, Urbana, Illinois, not dated), 38 pages. (mimeographed)

[5]Wilson L. Taylor, The Cloze Procedure: How It Predicts Comprehension and Intelligence of Military Personnel, (Technical Memorandum Number 13, Urbana, Illinois: Division of Communication, University of Illinois, 1953).

contains the data obtained from the execution of the study and its analysis. It is followed by the interpretation and discussion in Chapter VI. The conclusions are located in Chapter VII.

Complete references to all works cited are located in the bibliography. Copies of the messages, the evaluating instruments, and other materials pertinent to the conduct of this study are in the appendices.

CHAPTER II

RELATED RESEARCH

It is the purpose of this chapter to present the knowledge contributed by others applicable to this study.

Perceiving Others

Arguments have flown thick and fast for many years over what perception actually is, what it is caused by, and how it functions. An authority defines perception as:

> The reaction to one set of stimulus-objects that correctly separates it from another set is all we need. That reaction is the perception. ... summed up by saying that a perception can be regarded as nothing more or less than a discriminatory response.[1]

Arnheim in this theory of expression suggests:

> In its proper biological context, perception appears as the means by which the organism obtains information about the friendly, hostile, or otherwise relevant environment force to which it must react.[2]

These reactions have been the object of study for decades. Scientist and layman alike have investigated the

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[1]Floyd H. Allport, Theories of Perception and the Concept of Structure, (New York, John Wiley and Sons, 1955), p. 53.

[2]Rudolf Arnheim, "The Gestalt Theory of Expression," Psychological Review, LVI (May, 1949), p. 170.

response of one individual to another. Darwin's[3] treatise on this topic contains many case histories of personality reaction, and also photographs of persons expressing various emotions. This book is representative of the method used for many modern studies of personality perception--with the use of pictures. This is quite understandable, for studies of perception require receiving responses to a specific set of stimuli from a number of subjects, and photographs offer this methodological control.

Conflict continues among psychologists as to how people perceive others. Kohler, an eminent Gestalt theorist, writes:

> I do not think that the language of others is our main cue, in the sense that the content of it might be taken as a description of their subjective experiences, and we ascribe to this pomposity or modesty, friendliness or coldness, without their telling us a single word about such traits. In a foreign country, we appreciate to a great extent that others are 'provocative' or 'kind', though we may be absolutely unable to understand their language. Where we do understand their words, their manner of talking is often a better cue, and we trust it more than the content of their talks. Also a certain kind of silence occasionally tells us more about others than any number of words could reveal in the same direction.[4]

Asch, also of the Gestalt school further developed the concepts of Kohler. In contrast to the personal intangible factor as expressed by Kohler, he used descriptive

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[3]Charles Darwin, The Expression of the Emotions in Man and Animals, (New York, D. Appleton and Company, 1873), 374 pages.

[4]W. Kohler, Gestalt Psychology, (New York, Liverwright Publishing Corporation, 1929), p. 234-235.

words to enable evaluating subjects to perceive a hypothetical personality. By this procedure the theory was subjected to empirical test within a relatively limited context--definitive language. An extensive series of experiments were completed.

In the first, 90 subjects were exposed to a hypothetical individual who was described as, "intelligent-skillful --industrious--warm--determined--practical--cautious."[5] Their perception of this individual deviated significantly from 79 other subjects who were exposed to the identical description except "warm" was replaced by "cold." All the subjects were asked to select from a series of 18 characteristics those they expected the hypothetical individuals to possess. The distinct separation between the characteristics selected by the two groups encouraged Asch to continue his investigation. In succeeding experiments the terms "polite," "blunt," and others, were substituted for "warm" and "cold." The tendency to polarize the perception of the hypothetical personalities disappeared. These results led to the conclusion, "that a change in a peripheral trait produces a weaker effect upon the total impression than does a change in a central trait."[6]

A series of 10 experiments were conducted, and the conclusion of the earlier experiments was modified:

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[5]Asch, op. cit., p. 262.

[6]Ibid, p. 266.

> It can now be seen that the central characteristics, while imposing direction upon the total impression were themselves affected by the surfrounding characteristics.[7]

The difference the central quality "warm-cold" produces in mentally perceived individuals is readily observed in Tables I and II. Table I resulted from "intelligent--skillful--warm" and "intelligent--skillful--cold" descriptions.[8]

TABLE I

CHOICE OF FITTING CHARACTERISTICS
EXPERIMENT IX (Percentages)

		Warm (N=22)	Cold (N=33)			Warm (N=22)	Cold (N=33)
1.	generous	100	12	10.	humane	100	17
2.	wise	95	11	11.	good-looking	95	57
3.	happy	100	10	12.	persistent	78	97
4.	good-natured	100	8	13.	serious	68	97
5.	humorous	100	12	14.	restrained	41	97
6.	sociable	100	9	15.	altruistic	91	3
7.	popular	100	6	16.	imaginative	95	9
8.	reliable	100	87	17.	strong	74	87
9.	important	68	54	18.	honest	100	81

Table II contains the results from a simple "warm" and "cold" description of an individual received by Asch.[9]

Even though Asch worked with descriptive words, his works suggest that one perceives an individual personality by associating various characteristics in clusters, and not as isolated traits. This result raises questions about the

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[7] Ibid, p. 276.

[8] Ibid.

[9] Ibid, p. 277.

TABLE II

CHOICE OF FITTING CHARACTERISTICS
EXPERIMENT IXa (Percentages)

		Warm (N=22)	Cold (N=33)		Warm (N=22)	Cold (N=33)
1.	emotional	100	12	unemotional	0	88
2.	practical	40	73	theoretical	60	27
3.	optimistic	95	17	pessimistic	5	83
4.	informal	95	0	formal	5	100
5.	cheerful	100	18	sad	0	82
6.	short	91	8	tall	9	92
7.	modest	86	9	proud	14	91
8.	imaginative	95	28	unimaginative	5	72
9.	thin	15	93	stout	85	7
10.	intelligent	81	96	unintelligent	19	4
11.	brave	91	74	cowardly	9	26
12.	pale	15	97	ruddy	85	3

validity of the concept that traits are atomistic and can be isolated statistically or otherwise.

The subjects were asked after each experiment to explain in writing how they perceived the described individual. Summarizing the assumptions that appear to effect the experimental subjects' formulation of personality, Asch writes:

> It is equally far from the observed facts to describe the process as forming a homogenous, undifferentiated 'general impression.' The unity perceived by the observer contains groups the parts of which are in more intimate connection with each other than they are with parts of other groupings...
>
> If we may assume that the situation observed corresponds to this view, an important conclusion follows for method, namely, that we can study characteristics of persons without an exhaustive knowledge of the entire person.[10]

Two particularly promising experiments conducted by

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[10] Ibid, p. 285.

Asch were replicated by Mensch and Wishner.[11] The results affirmed the previous conclusion, namely, certain traits--particularly "warm" and "cold"--tend to represent a central quality. Other traits were observed to vacilliate between peripheral and central qualities, their location depending upon the context in which they were perceived. Therefore, how one weighs the descriptive qualities presented and interprets their interaction affects the formation of their impression. This team concluded:

> ...the present evidence supports the view that the formation of an impression is a function of (perceived trait) interaction which produces an organized total impression.[12]

Aware of the errors accumulating in these studies of personality by verbal description, Kelly[13] experimented with student reaction to a stimulus individual. He studied the "warm-cold" variable by means of a verbal introduction given before the arrival of a guest lecturer. In one instance he was introduced as "warm"--and in the other as "cold." Following the lecture and the lecturer's departure, subjects were presented a prepared list of qualities, and were asked to indicate their impressions of the stimulus individual.

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[11]Ivan N. Mensch, and Julius Wishner, "Forming Impressions of Personality," Journal of Personality, XVI (January, 1947), pp. 188-191.

[12]Ibid, p. 191.

[13]Harold H. Kelly, "The Warm-Cold Variable in First Impressions," Journal of Personality, XVIII (June, 1950), pp. 431-439.

The results corroborated the preceding work. These student subjects used many of the same descriptive words to describe their impressions of the stimulus individual as had been reported in other studies.

The same students were subsequently given an opportunity to interact with the stimulus individual in this experiment. Kelly noted the first impression given the students, that is, "warm" or "cold" impression, influenced their behavior toward the stimulus individual. The students with a favorable impression "tended to interact" with the stimulus individual more than those who had gained an unfavorable impression.[14]

Credence was lent to this finding by Dailey[15] who found that personality impressions based upon partial information were not effectively reorganized when additional information was provided about the hypothetical individual. That is, a tendency to fix opinions occurs when premature judgments are forced.

Asch, who had conducted further study of the organization of personality impressions, had also reached this conclusion. Following the completion of a long series of studies, he concluded; the order of presenting words describing hypothetical individuals to subjects exerts an effect upon the characteristics described later. Thus, this suggests

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[14]Ibid, p. 439.

[15]C. A. Dailey, "Some Factors Influencing the Accuracy of Understanding Personality," (unpublisned, Ph.D. dissertation, Univ. of Mich., Ann Arbor, Mich., 1951), p. 134.

that the original impression created by descriptive words tends to have stability.[16]

The knowledge accumulated by the scholars conducting these investigations of personality perception show clearly that "warm" and "cold" are two, of perhaps other, central personality qualities. When the subjects were faced with a particular description they tended to react dichotomously. It may be said that the reactions were virtually polarized.

It is concluded that Kohler's concept of personality impression has been supported by these studies. If these conditions exist when internal perceptions are verbalized, will the same thing occur when persons are perceived visually?

Perceiving The Source

We shall now turn from the studies of perception of individual personality to the perception of the communicator as an information source.

> Everybody knows that in perceiving or responding to any stimulus, besides the external factors, internal factors play an important part.
> ... The words of a person with whom we are acquainted or the pronouncements of a person who has prestige in our eyes, are experienced against the whole background of our relationship to that person.[17]

A statement of this type is logical when we scrutinize

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[16] S. E. Asch, Social Psychology, (New York, Prentice-Hall, 1952), p. 446.

[17] M. Sherif, "An Experimental Study of Stereotypes," Journal of Abnormal and Social Psychology, XXIX (January-March, 1935), pp. 371-375.

individual lives and experiences. It follows, then, that every member of a television program audience will perceive the message and the communicator differently. Further, that prestige does not necessarily produce a positive reaction within individuals. Though the audience members may perceive the source in minutely differing contexts, generally the mass media establish a "commonness."

An early study of the effect created by the message source was conducted at Columbia University with two classes of graduate students who were specializing in sociology. These classes were administered the standardized test, "Social Beliefs and Attitudes of American Educators." The experimental class students were provided a specified list of reference readings, including Walter Lippman's Public Opinion, and required to complete them within the next 30 days. At that time the standardized test was repeated; but answers to all the questions were provided. Subjects were told the answers were from 10 leading--actually hypothetical--educators, and the answers given represented 98 percent agreement among these people. This time they were to mark those answers with which they disagreed.

The results clearly demonstrated some attitudes were easily and suddenly changed by altering the prestige element --leading educators answering the questions. Subjects who read intensively were less affected by the prestige element than the control group. More positive reactions to prestige were obtained from the liberal than the conservative subjects.

Attitudes related to peripheral interests--foreign nations and so forth--were changed more than those of vested interests.[18]

A complementary study was conducted by Sherif[19] who selected 12 passages from a single author and gave these passages to student subjects with a list of 12 authors' names. Repeating this procedure with three different groups using the same techniques, but with new materials, he found that subjects matched the names of authors and passages without regard for the intrinsic merit of the passage. Authors which subjects recognized as prestige persons were associated with passages the subjects rated highest and vice versa. These results demonstrate that, "prestige-suggestion or stereotype plays a considerable part in people's judgment."[20]

An extensive study of prestige effects upon 99 educated but unemployed persons is reported by Lorge.[21] The preliminary step in this study required the subjects to rank a list of well known political figures, organizations, and publications in the order they personally regarded them as valid sources of information. This ranking was used as the

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[18]Claude E. Arnett, Helen H. Davidson, and Hallet N. Lewis, "Prestige as a Factor in Attitude Change," Sociology Social Research, XVI (September-October, 1939), pp. 49-55.

[19]Sherif, op. cit.

[20]Ibid, p. 374.

[21]Irving Lorge, "Prestige, Suggestion, Attitude," Journal of Social Psychology, VII (November, 1936), p. 386-402.

measure of source prestige. Several days later the subjects were given a series of political-economic quotes to evaluate on a five-point agree-disagree scale, and asked to select the author of each from two given--one correct. Following a lapse of 30 days the same series of quotes were presented, with the correct author, and the five point agree-disagree scale repeated.

Changes in attitude occurred among the subjects when the quotes and their authors were perceived as implying "positive prestige, positive suggestion, (and) positive attitude, or by confirming reaction in the subject(s)." Furthermore, attitude changes occurred more readily when positive aspects of regard were utilized than negative. Lorge concludes: "Opinions were changed in the direction of agreement."[22]

Building upon the former studies Lewis[23] used political slogans and manipulated them to view the effects of prestige. The design was similar to that used by Lorge. These subjects did not change their original ranking of the slogans to any extent when confronted with standards of political conflict or agreement. Subjects simply rejected political standards conflicting with their own regardless of source. Liberals were found to shift their attitudes, more readily

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[22] Ibid, p. 402.

[23] H. B. Lewis, "Studies on the Principles of Judgment and Attitudes: The Operation of 'Prestige Suggestion'," Journal of Social Psychology, XIV (August, 1941), pp. 229-256.

than radicals, away from the prestige sources when conflicting circumstances existed.

A conflict in these studies was perceived by Asch, who hypothesized that prestige effects, to be consistent, must not be affected by the message content. The data obtained by Lorge[24] in the study nearly 20 years earlier were re-analyzed. The hypothesis was not supported. "There was a trend not to shift one's evaluation of statements, which was at least as strong as the tendency to change evaluation."[25]

How an individual perceives the intent of a message also influences its effectiveness. Hovland, et al,[26] report this fact from a study of an army orientation film. Soldiers were asked to complete an open-ended question following their exposure to the film, Why We Fight. The answers received concerning the intent of this film separated into three subgroups; manipulative, those perceiving the film as propaganda; ambiguous, and informative. The effectiveness of this film was determined by a before and after test to measure learning. The film was least effective for those persons who perceived it as a manipulative source. The effectiveness increased as a more positive approach was taken to the film

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[24]Lorge, op. cit.

[25]S. E. Asch, "The Doctrine of Suggestion, Prestige, and Imitation in Social Psychology," Psychological Review, LV (September, 1948), pp. 250-276.

[26]C. I. Hovland, A. A. Lumsdaine, F. D. Sheffield, Experiments in Mass Communications, (Princeton, New Jersey, Princeton University Press, 1949), pp. 101-103.

with a consistent increase in learning through each sub-group with the greatest effectiveness resulting in those individuals who had a high school education or higher, and who perceived it as an informational source.

These and other studies have culminated in the source credibility study by Hovland and Weiss.[27] Simulated mass communication conditions were built into this experiment. The investigators selected eight sources--four trustworthy and four untrustworthy. A series of four articles were prepared in two versions in a manner that the same facts could lead to the conclusions attributed to the sources indicated. For example, an article on television effects upon movie theaters was credited to Fortune, the trustworthy source, and a widely syndicated well-known movie-gossip columnist the untrustworthy source. The students were administered the experimental materials in a class situation by a "visiting professor." Questionnaires were administered immediately after the students completed reading the booklets containing the experimental materials.

The investigators conclude:

> The immediate reaction to the 'fairness' of the presentation and the 'justifiability' of the conclusion drawn by the communication is significantly affected by both the subject's initial position on the issue and his evaluation of the trustworthiness of the source. Identical communications were regarded as being 'justified' in their conclusions in 71.7 percent of the cases when presented by a high credibility

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[27]C. I. Hovland, and W. Weiss, "The Influence of Source Credibility on Communication Effectiveness," Public Opinion Quarterly, XV (Winter, 1951), pp. 635-650.

> source to the subjects who initially held the same opinion as advocated by the communicator, but were considered 'justified' in only 36.7 percent of the cases when presented by a low credibility source to the subjects who initially held an opinion at variance with that advocated by the communicator.[28]

Factual information was learned and retained equally well, from both sources, immediately, and over a 4-week period. Opinions were immediately and significantly changed in the direction advocated by the trustworthy source. However, in 30 days the subjects decreased the extent of their agreement with the trustworthy source and increased their agreement with the untrustworthy source until the two attained equal status. This phenomena is referred to as the "sleeper effect," and is apparently obtained because the subject tends to remember the information gained in the message, but forgets the message source.

The results of this experiment contrast with those of the prestige studies. The shifts of opinion caused by the prestige of the source were attributed to reinforcement of an original positive attitude. The opinion shifts creating the "sleeper effect" are assumed to result from the original rejection of the untrustworthy source; followed by a subsequent forgetting of the source, but a retention of the message. The ability to remember the information is apparently equal for the positive and negative sources.

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[28] Ibid, p. 650.

The "sleeper effect" was also produced by Weiss[29] in a study of student opinions toward messages concerning the effects of cigarettes. The messages were true-false statements, and the student subjects were expected to determine their accuracy, and be able to repeat the information when presented the message in different patterns. Immediate and three-week opinion changes did not produce the "sleeper effect," but when subjects were tested at six weeks the "sleeper effect" was present.

To test the validity of the "sleeper effect" theory, Kelman and Hovland[30] conducted another experiment. High school students were exposed to one especially prepared recorded radio program presented by three communicators. The message theme expressed a position of leniency for juvenile delinquents. The positive role was represented by an experienced authority and judge. The neutral role was portrayed by a man supposedly selected from the program audience, and the negative a like individual, but one who had violated the law several times and took this position for his own interests.

Four classes of students were exposed to the positive source and four to the negative source. Two classes

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[29]Walter Weiss, "A 'Sleeper Effect' in Opinion Change," Journal of Abnormal and Social Psychology, XLVIII (April, 1953), pp. 173-180.

[30]H. C. Kelman, and C. I. Hovland, "'Reinstatement' of the Communicator in Delayed Measurement of Opinion Change," Journal of Abnormal and Social Psychology, XLVIII (September, 1953), pp. 327-335.

were exposed to the neutral source. The positive and negative sources shifted the opinions of the students as Hovland and Weiss had observed earlier. An opinion scale administered three weeks later to half the classes found the "sleeper effect" functioning. The remaining classes were exposed to the communicator's introduction, but not the message, before repeating the opinion scale. They did not show the "sleeper effect," but maintained their original pattern. The neutral source did not change opinions as a result of this experiment. Learning declined approximately equally for all groups.[31]

The foregoing studies have demonstrated the same phenomena. That is, people tend to shift attitudes towards a source which they perceive positively. In addition the studies of Hovland, et al, of the "sleeper effect" illustrate that initial attitude is affected directly as a function of perceiving the source positively or negatively. Building upon the studies reviewed, and others, Tannenbaum[32] hypothesized:

> The amount of attitude change toward the concept in the direction of the assertion is directly proportional to the degree of favorableness of the original attitude toward the source.... The amount of the attitude change toward the source in a favorable direction is directly proportional to the degree of favorableness of the original attitude

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[31] Ibid, p. 335.

[32] Percy H. Tannenbaum, "Initial Attitude Toward Source and Concept as Factors in Attitude Change Through Communication," Public Opinion Quarterly, XX (Summer, 1956), p. 415.

> toward the concept when the assertion is favorable, but is inversely proportional when the assertion is unfavorable.

Three source-concept combinations of especially prepared written material in favorable and unfavorable versions, with two filler messages reproduced in standard newspaper type, were used to test the hypotheses on 405 undergraduate psychology students. The attitude shifts were determined by a semantic differential instrument. Before attitude tests were followed five weeks later by the source-concept messages and an immediate after test.

Tannenbaum concludes: "A major finding is that the susceptibility to change is inversely proportional to the intensity of the initial attitude."[33]

The studies of "prestige" and "source credibility" represent the same thing with different labels; namely, people shift attitudes relative to their initial positive or negative perceptions of communicators and communication sources. It is interesting to note that Hovland found factual material was learned equally well from sources perceived negatively as well as positively. However, the instrument--four multiple choice questions for each message--permits questions concerning the sensitivity of his measuring instrument to be raised about this finding.

Despite Hovland's findings it seems reasonable to hypothesize that communicators who obtain a measure of "prestige" and who are perceived as "warm" personalities will produce

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[33] Ibid, p. 425.

greater learning than communicators perceived as "cold" personalities. For here a reinforcement of positive attitudes should occur and support the "warm" individual by maintaining the attention of viewers. But, for the "cold" individual attitudes are counteracted and thus attention probably declines as a result.

Television Studies

Television research expanded with the commercial development of the industry following World War II. That this would occur was inevitable for many aspects of program methods, audiences, and effects demanded answers that the new medium might increase its impact.

During the gestation period, the new industry broadcast and telecast many programs simultaneously. This provided a cushioning device for the industry, and offered a transition period for the public. Goldberg[34] conducted a study of student attitudes toward these opposing facets of a commercial simulcast. The students participating were asked to indicate their attitude via a five-point scale. Those who viewed the program via television reported a more favorable attitude than those who listened via radio.

It was readily apparent from audience response that some program types used in the new medium were more effective than others. A study of audience attitudes toward the

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[34]H. D. Goldberg, "Liking and Retention of A Simulcast," Public Opinion Quarterly, XIV (Spring, 1950), p. 142.

lecture, discussion, and drama as programming methods was conducted by Hard.[35]

The messages conveyed horticultural information. The audiences viewing the programs returned definitely unfavorable attitudes for the lecture method of presenting information. There were no discernable differences in attitudes toward the drama or discussion programs. Brandon,[36] substituting the interview, instead of the drama, conducted a similar analysis of program methods. This intensive study also reported audience attitudes were unfavorable to the lecture.

Jorgenson's[37] analysis of newscasting methods using a newscaster alone, still pictures with the newscaster off camera, and films with the newscaster narrating, shows that audiences are more favorably disposed to the newscaster alone. The films used contained some pictures of Senator McCarthy, and this may have produced a bias in the study. Possibly in this instance the message effect is a function

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[35]C. Gustav Hard, "An Evaluation of Techniques for Presentation of Horticultural Topics Through the Medium of Television," (unpublished Master's thesis, Michigan State College, East Lansing, Michigan, 1952), 49 pages.

[36]James RodgerBrandon, "The Relative Effectiveness of Lecture, Interview, and Discussion Methods of Presenting Factual Information by Television," (unpublished Ph.D. dissertation, University of Wisconsin, Madison, Wisconsin, 1955), 225 pages.

[37]Erling S. Jorgenson, "The Relative Effectiveness of Three Methods of Television Newscasting," (unpublished, Ph.D. dissertation, University of Wisconsin, Madison, Wisconsin, 1955), 191 pages.

of what is being conveyed, rather than how, or by whom.

A pilot study of closed-circuit television has been conducted at Pennsylvania State University.[38] The project investigated student acceptance and teaching effectiveness of this form of instruction. Classes in chemistry, psychology, and marriage were instructed simultaneously by conventional procedures and closed-circuit television for one semester. Students in all the classes and courses learned information material equally well. Students in television groups accepted this new method of instruction, but their attitudes were "neutral or slightly negative."[39]

An intensive study conducted at Camp Gordon, Georgia, found that some types of materials are taught more effectively by television than by classroom instruction. These were materials that required "simple rote learning" or the learning of object relationships.[40] Normally these materials were more adaptable to television's electronic devices--superimposures and close-ups. Several companies of basic infantry recruits were subjects for this study. These recruits were administered the Army Area I aptitude test.

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[38]C. R. Carpenter, and L. P. Greenhill, "An Investigation of Closed-Circuit Television for Teaching University Course, (Pennsylvania State University, University Park, Pennsylvania, 1955), 102 pages.

[39]Ibid, p. i.

[40]J. H. Kanner, R. P. Runyon, and O. Desiderato, "Television in Army Training," (Human Resources Research Office, Technical Report, Number 14, The George Washington University, Washington, D. C., 1954), p. 29.

Dividing the recruits into high and low aptitude groups at the median score the analysis showed that low aptitude subjects learned relatively more from television instruction than the high aptitude subjects. The investigators suggest this result probably occurred because the testing instrument discriminated less accurately among the high aptitude subjects[41] who approached the maximum of the instrument initially.

In his second investigation Hard[42] attempted to determine the optimum number of new scientific horticultural terms the audience could assimilate in a given period. When these terms were used in the message at the rate of one per minute in exposure periods of 15, 19, and 24 minutes duration, no differential effects resulted. Learning by the students when expressed as a ratio of words and time was consistent for all groups.

These studies represent a relatively minor sample of the accumulated data demonstrating that learning occurs as a result of persons viewing programs in a specific situation. Most institutional empirical studies have included as a corollary the measurement of learning.[43] [44] [45] [46] [47] [48]

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[41] Ibid, p. 23.

[42] C. Gustav Hard, "An Adaption of a Course for Television Teaching of Horticulture," (unpublished Ph.D. dissertation, Michigan State College, East Lansing, Michigan, 1954), 109 pages.

[43] Goldberg, op. cit. [44] Hard, op. cit.

[45] Brandon, op. cit. [46] Jorgenson, op. cit.

[47] R. M. Allen, "Quartermaster Command Educational Television Study," (Quartermaster School, Fort Lee, Virginia,

Several major studies have demonstrated that learning also occurs when the audience views programs in the home. An outstanding one of this type was designed by Belson,[49] who studied the British Broadcasting Company's series "Bon Voyage." This series was designed to convey simple messages about Paris, France, and teach a few French words to the viewers that would be useful on a trip to Paris. This unique study obtained as subjects, persons who viewed the programs under home conditions without knowledge that they might be selected to participate in an analysis of the program. A sample of approximately 100 viewers and 125 non-viewers participated in the evaluating sessions. Critical analysis of the data indicate approximately 11 percent of the total message was effectively retained by the viewing audience. However, attitudes were affected negatively, as many subjects reported their known ignorance of French was developed by this series, and this would tend to inhibit their journeying to Paris.

Shimberg,[50] experimented with the Red Cross Home

1954, 16 pages.

[48]For a comprehensive survey of the work in educational television see Hideya Kumata, An Inventory of Instructional Television Research, (Educational Television and Radio Center, Ann Arbor, Michigan, 1956).

[49]William A. Belson, "Learning and Attitude Changes Resulting from Viewing a Television Series, 'Bon Voyage,'" The British Journal of Psychology, XXVI (Part 1, 1956), pp. 31-38.

[50]Benjamin Shimberg, "Effectiveness of Television in Teaching Home Nursing," (Education Testing Service, Princeton, New Jersey, 1955), p. 30.

Nursing course effects when televised as compared with classroom instruction, and found them of equal effectiveness. The two courses were conducted concurrently in two cities. The television series enrolled 387 persons and the classroom series 282 persons. However, when the courses were completed only 45 percent of the television group completed, while 83 percent of the classroom group did so. Although much less personal trouble was involved for those viewing the television lessons than the classroom the author attributes the results to this very factor. That is, social pressures forced the classroom enrollees to complete.

Students enrolled in a psychology telecourse presented by Iowa State College learned equally as well and made grades comparable to those students receiving classroom instruction.[51] In this instance, 54 of the 56 persons enrolled in the course to receive college credit completed.

Many television programs present informational materials to the audience that are more complex than the "simple rote learning" type. An example are programs giving instruction in clothing construction. Probably the first extensive analysis of the effectiveness of a clothing program was conducted in Washington, D. C.[52] A sample of 251 women were

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[51]R. W. Husband, "Television Versus Classroom for Learning General Psychology," American Psychologists, VI (May, 1954), p. 82.

[52]Meredith C. Wilson, and Edward O. Moe, "Effectiveness of Television in Teaching Sewing Practices," (Extension Service Circular, 466, United States Department of Agriculture, Washington, D. C., 1951), p. 3.

randomly selected for personal interviews from an original group of approximately 950 who requested a bulletin on dressmaking--offered over television. The data from this 11 program series indicates that, "the younger women, the women with college training, those who did the most sewing, and those who possessed the highest sewing skill, did make slightly more use of the new knowledge acquired than other groups."[53] This suggests that though the message was effective with all groups, those persons viewing the programs who were originally more highly trained benefited the most from this series.

Williams[54] has demonstrated that methods of successfully presenting a clothing program to the intended audience do not all occur in the studio before the camera. With a pre-promotion of the experimental program series she obtained over 1,800 requests for additional information on clothing. From these persons 435 homemakers were randomly selected to form four experimental groups. Group A received no supplementary aids to the programs; Group B received instructional materials; Group C received identical material plus personal instruction when requested from the local Home Agent; and Group D received all the materials of Groups A, B, and C plus personal program reminder cards.[55] The subjects in the

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[53]Ibid, p. 2.

[54]Elsie K. Williams, "Effectiveness of Television as a Teaching Medium for Clothing Instruction," (unpublished Master's thesis, Iowa State College, Ames, Iowa, 1953), 149 pages.

[55]Ibid, p. 14

original sample were personally interviewed following the ten program series. It was found that promotion and viewing were positively correlated. Eighty percent of the subjects in Group D viewed all 10 programs as contrasted with 70 percent of Group C, 50 percent of Group B, and 45 percent of Group A.[56] The ability to identify clothing construction terms and pattern parts was also positively correlated with promotion and viewing. Thus, a supplement to instruction programs may be found in personal program promotion via instructional aids and promotional materials.

The use of especially produced and telecast programs for in-class viewing by part-time vocational agricultural students has been examined by King.[57] The students and instructors of 10 vocational agriculture departments cooperated in this study. Approximately one-half of the programs in the 36 program series--presented weekly from September to June--were not viewed by any subject in the study. The materials presented by the programs were obtainable from other sources; therefore, learning directly attributable to the programs was difficult to measure. Generally the findings from these case-studies suggest the students participating objected to the content of the programs, the method of presentation, and their use in the class-room situation.

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[56] Ibid, p. 73.

[57] Charles Edward King, "A Case-Study of the Evaluation and Use of Special Television Programs as an Instructional Aid in Vocational Agriculture," (unpublished Ph.D. dissertation, College of Education, Michigan State University, East Lansing, Michigan, 1955), 330 pages.

Of course, all empirical studies of television have not been of method and results. Among the many studies of other aspects of television is one by McKune.[58] This dissertation, though evaluating a series of programs, clearly describes and defines the role of administration in solving problems of inter-institutional responsibility for educational purposes.

An analysis of 9 stations' local public service programming between January 1, and June 30, 1953, is reported by Williams.[59] During the period examined those television stations operated by corporate enterprises provided more local public service programming than family owned stations. The problem of providing local groups with time was very commonly solved by having them appear on programs directed to the rural audience.[60]

Many accomplishments have been credited to television, even the ability to sooth the mentally ill.[61] A controlled study resulted from the first observations of television's

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[58]Lawrence E. McKune, "Some Problems in Writing Production, and Evaluation of Television Programs for In-class Viewing," (unpublished, Ph.D. dissertation, Iowa State College, Ames, Iowa, 1953), 264 pages.

[59]W. W. Williams, "An Analysis of the Sustaining Local Public Service Programming of Selected Television Stations," (unpublished, Ph.D. dissertation, Indiana University, Bloomington, Indiana, 1955), 442 pages.

[60]Ibid, p. 285.

[61]Gaither L. Martin, "The Effects of the Behavior Patterns and Activity Levels of the Mentally Ill," (unpublished Master's thesis, Department of Psychology, San Jose State College, San Jose, California, 1955), 75 pages.

effect upon mental patients. Preliminary conclusions of this study indicate that patients administered therapy via closed-circuit television in the areas of communication, interpersonal relationships, and socialization demonstrate significant improvements.[62]

An intensive analysis of the effects of the 1952 political conventions was conducted by Lang.[63] The relationship between viewers' perspectives and the telecast perspectives obtained from the interviews with a quota sample of viewers from Chicago's South Side and accurate monitoring of the actual events telecast resulted in these conclusions:

> People certainly learned--though at different levels--about the mechanics of a convention.
> Interest was aroused in the viewers by the event itself...
> ...our data have indicated that viewers avoided contrary communication (to their prejudice and belief) when confronted with it; that telecasts did extend the horizons of viewers insofar as they 'met' some new people; but, for the most part, prior opinions of people on issues were rationalized and reinforced.[64]

An analysis of MacArthur Day in Chicago, a widely publicized event as viewed at the scene and via television

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[62]Gaither L. Martin, and Charles Over, "Therapy by Television," Audio-Visual Communication Review, IV (Spring, 1956), p. 130.

[63]Gladys E. Lang, "A Study of Politics on Video: Content, Viewers, and Definitions of the 1952 Conventions," (unpublished, Ph.D. dissertation, Department of Sociology, University of Chicago, Chicago, Illinois, 1954), 346 pages.

[64]Ibid, p. 308.

is reported.[65] Thirty-one persons were used to collect data for the study. These persons acted as observers at the scene and monitors of the telecast event. Personal interviews were conducted at the scene of the events, and each person participating prepared a written report giving his impression of the event. These were studied and analyzed by content analysis. The accuracy of the statement "the 'camera does not lie'"[66] is questionable when the reports are interpreted. The monitors of television viewed the event as a tremendous public welcome. Those who were at the scene did not observe this phenomena. These differences between the scene interpretations and monitor observations may be explained in part by three factors available to the medium: technological bias, the selection of camera shots by operating personnel; structure of the event provided by the commentator; and reciprocal effects of the medium upon the principals created by the staging procedures.[67]

There is little doubt that the analysis of religious programming: its audiences, its programs, and their composite effects represents the most comprehensive study of a specific program area completed to date.[68] After conducting intensive

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[65]Kurt Lang, and Gladys E. Lang, "Unique Perspective of Television and Its Effect: A Pilot Study," American Sociological Review, XVII (February, 1953), pp. 3-12.

[66]Ibid, p. 10. [67]Ibid, p. 12.

[68]E. C. Parker, D. W. Barry, and D. W. Smythe, The Television-Radio Audience and Religion, (New York, Harper Brothers, 1955), 464 pages.

personal interviews in a 5 percent randomly selected sample of the homes in New Haven, Connecticut--3,559 interviews completed--plus similar interviews with all the clergy of that city, depth interviews with 59 families (conducted by the principals of the study), and an analysis of the questionnaires returned by the principals of network religious programs the investigators concluded:

> Mass communication is a part of a social matrix that is a dynamic composite of religion, race, culture, and class. Each member of the potential audience occupies a position--often changing--in this matrix. This position influences his attitudes toward a communication and interpretation of content of messages received via television.[69]

This conclusion implies the message is all important and must be prepared to fit a broad audience. But, in reference to the selection of potential communicators the investigators conclude:

> The 'magic' of radio and television is not the kind of magic that rubs off on the amateur performer, and it contains nothing to add appeal or interest to the clergyman who cannot inspire people in person or in the pulpit.... As a general principle, therefore, if religious agencies wish to use the media to reach a large audience with a message, they would be well advised to select for their spokesmen those persons, clerical or lay, with a demonstrated capacity for capturing the interest and imagination of variagated audiences <u>without</u> these media.[70]

Of course, the reader will be aware that certain major portions of research literature have not been examined. Among these are audience surveys of who views, when, why, and how, and literature relating to the preparation of commercial messages. However, these are outside the scope of

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[69] <u>Ibid</u>, p. 396. [70] <u>Ibid</u>, p. 402.

the problem. The literature reviewed has dealt with aspects of our problem: presentation methods, results of programming to captive and casual audiences, television effectiveness in other than direct entertainment and educational roles, and the effects of the medium and the communicator.

Summary

Scientific investigation provides benefits to man by the isolation of facts. Discovery of relationships between or among these facts increases the effectiveness of a given effort. In this review of literature an attempt has been made to relate and apply the results of a wide variety of studies. The studies reviewed have been in three areas that are particularly pertinent to the problem.

Perceiving people: The subjects studied in the "warm-cold" experiments reacted in a specific and predictable pattern when they heard a hypothetical person verbally described as "warm" or "cold". On the basis of these verbal cues the subjects structured descriptions of hypothetical persons differently for "warm" than "cold" cues. These structural descriptions indicate that such a thing as a perceived "warm" and "cold" personality exists. This is supported by the study of how people react to an actual person when they receive appropriate verbal cues.

From these observations it follows that humans in observing each other receive subliminal and other cues which they interpret and classify as characteristics of "warm" or

"cold" personality. These qualities have importance for the communication process as the individual receiving the verbal message "warm" is apparently pre-conditioned psychologically to perceive the described person in a specific and favorable manner.

In interpreting the "warm-cold" studies the question remains unanswered whether people will react in a similar manner to a person who designates himself as a "warm" or "cold" person, and when they do react if these reactions will correlate with this designation.

Perceiving the source: The studies of message source and effect include findings that are divisible into primary and secondary types. The primary findings are those applicable to all communication situations, while the secondary findings are useful, but perhaps not as universally applicable.

The primary findings show that the attitudes of people are not shifted only as a result of the message being valid or meritorious, but also because the receiver associates himself positively with the source. The effectiveness of an untrustworthy source is initially dampened when it is perceived negatively, but in the long-run attitudes toward the source become as favorable as toward the source originally perceived positively.

The secondary findings indicate that attitudes of liberal political tendency are shifted more readily and easily than those of conservatives. The shifts in attitude that

occur as a result of perceiving a source and a prestige communicator positively are consistently positive. A source that is originally perceived negatively should not be reinstated if favorable attitudes concerning the message delivered are desired in the long-run. Finally, the "sleeper effect" an unexplained phenomena affects negative attitudes in the long-run and they return to a point of approximate equality with the positive attitudes.

These facts interact, as Tannenbaum has demonstrated, and must be associated with skill to obtain the maximum results from an individual or series of communications. These are particularly important in television where the audience size is determined in part by the positive perception of the communicator.

Television: The studies of television reviewed clearly establish that it is an effective method of communicating. However, the efficiency of the medium is determined primarily by the situation in which the audience receives the message it conveys. For instance, it has an efficiency equal to that of the classroom instructor when viewed by captive audiences, but when telecasts are made to the total audience the nature of the medium, and of the audience, lowers its efficiency. The evidence presented indicates the medium is not as efficient as the classroom situation because of certain social reinforcement patterns that accrue to the benefit of classroom instruction.

The findings show that people learn as efficiently

from one method of presentation available to the medium as another, but their attitude towards the lecture as a method is unfavorable. There is also an indication that certain materials are presented more effectively, and learned more efficiently, by television than classroom instruction. These types of material have usually been adapted to the more complex electronic devices available to the medium--close-ups and super-imposures.

As a method of communicating either to closed-circuit captive audiences, or the total audience, television has produced many effects upon the receiver that have not been adequately explained. For instance, the role of the communicator who directs his message to a special segement of the audience but receives the acclaim of the total audience is seen as one of increasing importance. Researchers who have investigated this phenomena note that people who do not satisfactorily meet the test of moving people in large or small groups probably will not be effective communicators when using the mass media.

Where these individuals appear on television the question may be raised concerning the audience response to their personality qualities, particularly when they appear as individuals without supporting elements.

CHAPTER III

THEORETICAL FORMULATION

The empirical evidence reviewed in the preceding chapter, includes three facts particularly pertinent to the theoretical formulation supporting this study. First, people perceive significant differences to exist between people who are verbally described as having a "warm" quality in combination with other qualities and those described as possessing a "cold" quality in the same combination. Second, the attitudes of people, who perceive a message or a message source, tend to shift as a ratio of their initial attitude towards the message and the present source of that message, and not necessarily in the direction advocated by the communication. Third, people learn material conveyed by television as well as they do from face-to-face instruction.

In addition to this evidence one can observe that some communicators in the television industry using unorthodox procedures have received favorable audience response. Whatever their procedures some people are more effective communicators than others. The problem is why this one and not that one?

A theory is based on observed facts. Observed facts lead to other theories. If the facts observed above are

congruent, we may develop a theoretical formulation which yields an objective method of selecting communicators.

We find the effects of a communicator are determined by the attitude and response of his audience. This is particularly true of television where the message is conveyed instantaneously and must be perceived at the instant of delivery. To maintain the audience, the message, the communicator, or both, must normally be perceived favorably. If at least one of these conditions does not exist, there is probably a limited and unresponsive audience. When this condition occurs, the communicator cannot complete the communication process, and his efficiency and effectiveness tends towards zero.

The efficiency of a communicator is difficult to measure. But we may arbitrarily define part of it as the percentage of the conveyed message that is perceived by the viewing audience. The effectiveness of a communicator might be determined by the product of efficiency and the audience size. A communicator may be more efficient but may not necessarily increase the size of his audience. If the communicator is perceived favorably, his effectiveness increases both as a consequence of an expanding audience and/or the increased impact of his message. The over-all communication process will be enhanced if an effective communicator can be chosen by an objective method which takes into account the factors that make for effectiveness.

When we review the studies by Asch, it seems logical to assume that people do make distinctions among people they

perceive "in the flesh" in the same fashion as among those they perceive from descriptions. Because this occurs, they make distinctions among professional communicators even as they do among other individuals. The medium of television permits these distinctive responses to occur more than any other medium because it conveys more cues about the personality of the telecast individual than other media. The responses resulting from these perceptions, coupled with the attitude toward the message conveyed, determine the audience size of television.

A single fact dominates the findings of the studies of television. That is, when other things are held constant people learn material conveyed by this medium as readily as they do in classroom instruction. Thus, we must conclude that the medium itself is not a barrier to the establishment of a "commonness."

But, what about the communicator who is more efficient and effective, does he lose this quality on television? This problem has not been studied empirically. However, among the ranks of the many communicators using television, a few have demonstrated extraordinary effectiveness. Some have attained this success who directed their messages initially to a special audience segment. Other effective communicators directed their original program to the mass audience. Some present their message with minimum supporting personnel or equipment. Yet the audience perceived these communicator-message teams favorably and the audience sizes increased.

The problem of selecting communicators objectively becomes one of determining what people perceive in other people and assuming that they perceive the same factors in communicators. Is it a simple awe and respect for their knowledge, their skill, their dress, or some other factors yet unknown? What happens when the communicator's knowledge of his subject is limited? When we select communicators objectively to convey identical messages, with relatively equal skill, have them appear in similar dress, and use the same method of presentation, will the audience respond to one of these unknown factors? What happens when the variable among communicators is a composite of temperament traits ranging along a continuum from "warm" to "cold?" Will there be a consistent difference in the way people perceive these communicators?

A re-examination of the studies by Asch suggests this difference will be perceived in communicators as they vary from "warm" to "cold." A critical analysis of the characteristics people used to describe individuals internally perceived as "intelligent--skillful--warm" and "intelligent--skillful--cold" is presented in Table I, page 12. When combined with those characteristics describing persons described as "warm" or "cold," presented in Table II, page 13, these descriptive characteristics separate into 4 groups, Table III, page 46.

The first and largest group contains characteristics of temperament. In the second group are 6 characteristics

TABLE III

CHOICE OF FITTING CHARACTERISTICS[a]
(percentages)

Warm (N=22)	Temperament	Cold (N=33)
100	generous	12
100	happy	10
100	good-natured	8
100	humorous	12
100	sociable	9
100	popular	6
100	cheerful[b]	18
100	emotional[b]	12
95	optimistic[b]	17
100	humane	17
95	imaginative	9
95	imaginative[c]	28
91	altruistic	3
86	modest[b]	9
78	persistent	97
68	serious	97
41	restrained	97
	Character	
100	reliable	87
68	important	54
100	honest	81
40	practical[b]	73
81	intelligent[b]	96
91	brave	74
	Features	
95	good-looking	57
74	strong	87
91	short[b]	8
15	thin[b]	93
15	pale[b]	97
	Manner	
95	informal	0

[a]Composite of Asch's results from experiment IX and IXa; see Tables I and II, pages 12 and 13.

[b]These characteristics are from Table II, page 13.

[c]This characteristic appears in both tables.

descriptive of character. The third group is composed of items describing physical features. The single term in the fourth group describes manner.

The first fourteen temperament characteristics indicate that people perceive "warm" and "cold" persons as polar opposites--as approaching the extremes of a continuum. In the remaining three, a dichotomy occurs suggesting direction, but not with the clarity of the first 14 characteristics.

The second group contains two characteristics on which people were undecided when perceiving others. These are practical and important. Where a relatively low percentage of subjects are willing to make a decision. We must conclude that these items are not clearly definitive, but that the character of an individual described in this fashion is relatively high for both the "warm" and the "cold" individual.

The third and fourth groups are characteristics of feature and manner. When we select a communicator objectively, these characteristics will not be examined.

One should not be surprised to find that characteristics of temperament and character are used by people to describe others they perceive. When we examine the major personality variable--adjustment, attitudes, interests, character, temperament[1]---the reason is obvious.

A person would find it very difficult to perceive the adjustment of an individual to his environment unless he re-

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[1]Robert L. Thorndike, and Elizabeth Hagen, Measurement and Evaluation in Psychology and Education, (John Wiley, New York, 1955), p. 24.

ceived extensive cues from the individual in question. Likewise, the attitudes of an individual cannot be easily assessed. This becomes particularly true when an individual conveys a message that does not clearly contain attitudinal components. The message an individual conveys may represent his interest in cattle, airplanes, or ships if we permit him to select his own. But, when we present him with a message to convey he probably will not completely reflect his interests. Thus, unless people receive additional messages and information from other sources about the individual perceived than those conveyed by Asch they would not describe the personality variables of adjustment, attitude, or interests.

The variables temperament and character do contain characteristics that are generally distinct. The character of an individual is normally determined by clothing and manner when other reference cues are not available. In an experiment it is possible to equate one of these--clothing.

The personality variable temperament we cannot eliminate nor control. This we must measure to the best of our ability and accept as the independent variable of "warm" and "cold" personalities. The problem becomes one of securing an instrument that will objectively determine the degree of "warm" and "cold" possessed by the individuals in a group of potential communicators. This must be accomplished by an instrument that shows a relationship to the findings of Asch, and which is also a reliable instrument.

Several standardized instruments are available to

measure the personality variables. One directly applicable to temperament measurement is the Guilford-Zimmerman Temperament Survey,[2, 3, 4, 5, 6, 7] which is authoritatively described as a reliable instrument.

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[2]Oscard K. Buros, "The Guilford-Zimmerman Temperament Survey," The Fourth Mental Measurements Yearbook, (The Gryphon Press, Highland Park, New Jersey, 1953), pp. 47-50.

[3]William Stephenson, University of Chicago, writes of this instrument, "The reliability with which each of the traits is assessed is shown to be of the order .80; and their intercorrelations are as the authors say 'gratifyingly low.'" He discusses the variable temperament further, "Temperament traits, after all, are in the happy position of being such as perhaps correspond to our behavior as observed by others--when we are sad, we feel it, and alos others can see it in our demeanors. But when we save a life and are called brave by observers, we might feel in fact quite frightened and horrified and certainly not brave-feeling. There are those who wish to look at personality (and everything else) from the 'internal frame of reference,' and others who look at it only from the 'external frame:' temperament traits probably look the same both ways, or imply the same." (Oscar K. Buros, Ibid, p. 49.)

[4]Appraising this instrument Neil Van Stunberg, Research Psychologist, Personnel Section, the Adjutant General's Office, Department of the Army, says, "The Survey gives a very favorable impression of a well-rounded, carefully worked out method of evaluating an important portion of the total personality. It is easy to administer and to score, and if the interpretation of the obtained measures is difficult it is a function of the complexity of personalities rather than a function of the Survey." (Oscar K. Buros, Ibid, p. 49.)

[5]Writing in the same volume Laurence F. Shaffer conceives the Survey, "As the outstanding omnibus instrument based primarily on factor analysis, the Survey will have usefulness for screening, rapid evaluation and research." (Oscar K. Buros, Ibid, p. 50.)

[6]Anne Anastasi criticizes the instrument in this manner, "In many respects, the Guilford inventories--and especially the latest composite form--represent progress in personality test construction. One of the chief remaining weaknesses ... is to be found in insufficient empirical validation. The reliabilities of the separate factor scores on the latest inventory range from .75 to .85. High reliabilities would of course be desirable for the differential interpretation of individual

The ten traits measured by the Survey are: emotional stability, objectivity, sociability, personal relations, masculinity, ascendance, general activity, restraint, friendliness, and thoughtfulness. After examining the positive and negative qualities associated with the traits (see Appendix A, Table I, for the positive and negative qualities the authors of the Survey suggest associate with each trait) it is obvious that the 17 "warm-cold" characteristics associate with only a few of the traits, Table IV.

TABLE IV

TEMPERAMENT TRAITS
AND
ASSOCIATED CHARACTERISTICS

Emotional stability	emotional, optimistic
Objectivity	altruistic, modest
Sociability	sociable, popular
Personal relations	. . . . .
Masculinity	. . . . .
Ascendance	. . . . .
General activity	. . . . .
Restraint	persistent, serious, restrained
Friendliness	generous, happy, good-natured, cheerful, humorous
Thoughtfulness	humane, imaginative

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profiles." (Psychological Testing, Macmillan Company, New York, 1954, p. 537.)

[7]Thorndike, and Hagen, op. cit., p. 387.

When we study Table IV, we see that the traits emotional stability, objectivity, sociability, friendliness, and thoughtfulness, are probably associated with a person perceived as possessing the personality quality "warm". Therefore, we should expect to find that communicators who have high scores in these traits when perceived by an audience will be rated as possessing the personality quality "warm." In addition to these high scores the individual selected by this objective measure and assigned "warm" may have, but not necessarily so, a lower score on the trait restraint than the individual selected as "cold." It follows, of course, that the individual assigned "cold" will have low trait scores.

From these observations it seems reasonable to assume that people perceive in others a series of characteristics, many of which are congruent with certain temperament traits. This group of traits is apparently a cluster organized in such a way that in some individuals it tends to subdue the remaining temperament qualities. The degree to which a person is perceived as having more or less of these characteristics determines his position along the "warm-cold" continuum.

It seems logical, therefore, to argue that among the many attributes possessed by the successful communicator the personality quality "warm" is of primary importance. Theoretically this quality--"warm"--is both measurable and perceivable. Therefore, if we rigidly control the elements that normally support a communicator appearing on television, the viewing audience will perceive the degree to which a communicator possesses the quality "warm-cold," and respond to them

positively (warm) or negatively (cold). It follows, that the communicator most positively perceived on the "warm-cold" continuum will be evaluated more favorably by the audience. The audience members will, in turn, perceive and learn more of the message conveyed by that communicator.

If this theoretical formulation is correct and valid, the following hypotheses will be substantiated:

1. The people forming the audience will perceive the degree of the personality quality "warm-cold" possessed by the communicators appearing on television, and will rank the communicators in the same order on the discriminating instrument as the instrument used to select them.

2. The audience will evaluate the communicator with the "warm" personality qualities more positively, and the learning of the audience members will correlate positively with the audience evaluation of the communicators.

CHAPTER IV

DESIGN AND PROCEDURE

In this chapter the problem design and procedure and the procedure of collecting the data are described with sufficient accuracy and clarity to permit replication of the study.

The overall design contained five major sub-areas. These were: (1) selecting the communicators via a standardized instrument, (2) preparing and selecting the messages, (3) producing the kinescopes, (4) pre-testing the instruments of communicator evaluation and audience learning, and (5) obtaining the audiences. These sub-areas are described before presenting the overall design. Following the design, the data collecting procedures are described.

Selecting the communicators via a standardized instrument: The first decision required selecting a source of potential communicators. Of all the sources possible two were accessible--students of agriculture and students of speech--each with its assets and debits. Selecting agriculture students as a source of communicators provided a means of equating subject matter knowledge of the message content, and assuming the risk of sacrificing the ability to equate skill of delivery. Selecting speech students as a source of communicators

meant equating skill of delivery and sacrificing subject matter knowledge. The decision: obtain students in speech classes as the source of communicators, because the variable, skill of delivery, would be more readily perceived and could affect the audience reaction to a communicator more than his unfamiliarity with the subject.

The first decision was actually a prerequisite to the major question: Would the Guilford-Zimmerman Temperament Survey (the Survey) be an acceptable instrument to discriminate "warm-cold" personality qualities? Prior to obtaining a class of students, five criteria guiding the choice of an instrument were established. First, the instrument must demonstrate that the traits theoretically representing "warm-cold" were present in the subjects. Second, interdependent--the cluster--traits must be observable by a statistical test--rank correlation. Third, only those temperament qualities with intercorrelations in excess of .80 were to form the studied cluster. Fourth, the instrument must indicate that communicators were present with profile scores sufficiently separated to indicate that the limits of the "warm-cold" continuum would be approached within the limit of the discriminating instrument. Fifth, to observe the discriminating ability of the instrument, and the perceptive ability of the audience, four communicators would be selected. Those communicators selected would be designated: 1. "warm" -- by having the highest scores in the traits on the interacting cluster; 2. "warm-cold" -- by the second highest scores;

3. "cold-warm" -- by next to lowest scores; and, 4. "cold" -- by lowest scores in cluster. This assured the extremes of "warm-cold" were present within the discriminating limits of the instrument.

The professor instructing Speech 306 obtained permission of the students to give one hour of their class time to this study. The Survey was administered to the 14 students--of a possible 17--present at 10 a.m., May 9, 1956, in room 121 of the Auditorium. The students had not received information concerning the nature of the study until this time. The following introduction was read by the investigator:

> Good morning -- I wish to thank each of you for your permission to use this hour of your time. Later, you may be requested to give a few more minutes to this study. I am presently interested in determining the temperament profiles of the student who continues courses in public speaking until he attains the level of ability which you have achieved.
>
> So that a record is available for you, in case you are individually interested in your profile, please obtain your number upon completion of the test from Dr. ..... You may take this number with your class number to the Counseling Center and ask for Mrs. ..... who will give you the information concerning your profile.
>
> Please give a definite answer to each question in the test booklet you will receive, and do not mark any with a question mark. Please give the answer as it applies to you personally--truthfully.
>
> I am not interested in you as individuals, but just as profiles on a chart. Thank you.

The Survey materials were immediately distributed. No further instructions were necessary as these appeared on the front of each Survey booklet. Every student completed the 300 question Survey within the 50 minute class period.

The Survey answer sheets were scored immediately, by the writer, at the Counseling Center. The profile scores of all the subjects are located in Appendix A, Table II. After careful scrutiny the data were subjected to the statistical test of rank correlation. A cluster of traits was present in the individuals tested and appeared in the data, Table V.

TABLE V

RANK-CORRELATION OF TEMPERAMENT TRAITS EXPRESSED BY SAMPLE OF COMMUNICATORS[a]

	E	O	S	P	M	A	G	R	F	T
E	x	.84	.30	.47	.51	.61	.10	.35	.93	-.23
O		x	.55	.59	.55	.67	.33	.61	.83	-.26
S			x	.50	.06	.50	.66	.05	.11	-.53
P				x	.68	.34	.16	.31	.51	-.63
M					x	.40	-.25	.69	.42	.02
A						x	.40	.53	.60	-.05
G							x	.02	.15	-.16
R								x	.48	.16
F									x	-.46
T										x

[a]The traits are referred to by letter in all succeeding tables for brevity. The key:

E - emotional stability
O - objectivity
S - sociability
P - personal relations
M - masculinity
A - ascendance
G - general activity
R - restraint
F - friendliness
T - thoughtfulness

In Table V, one can see that the interacting traits

were emotional stability, objectivity, and friendliness. To answer the question concerning their appearance as a cluster it was necessary to return to the theoretical formulation and the established criteria.

In the theoretical formulation, five traits--emotional stability, objectivity, sociability, friendliness, and thoughtfulness--were expected to interact to a relatively high degree. One--restraint--was expected to interact but the direction of the profile would reverse. The criteria established that the traits must be demonstrated as present, have intercorrelations in excess of .80 for acceptance, and indicate a wide range of communicator temperaments available.

A primary question raised was whether a sufficient number of traits were intercorrelating at .80 to represent an acceptable cluster? The trait thoughtfulness would probably never correlate positively at the prescribed level with the other five traits. The traits restraint and sociability remained for consideration. The former had been perceived by people as relatively high in both "warm" and "cold" personalities; but this was not true for our sample of communicators. The possibility of selecting communicators with a wide range of scores on restraint was good. Sociability scores were relatively high and a distinction did not occur to any extent among the subjects. However, the trait personal relations--one not considered in the theoretical formulation--did have a wide range of scores available which separated well, and in the correct pattern.

The decision: Accept the Guilford-Zimmerman Temperament Survey as the discriminating instrument, and choose the communicators from the initial sample. The theoretical pattern was modified by this decision. Only the traits, emotional stability, objectivity, and friendliness would actually represent the "warm-cold" cluster. If the hypotheses were substantiated, the traits, personal relations, restraint, and thoughtfulness would be accepted as associated with the "warm-cold" cluster, because they fulfilled the fourth criterion. One should note that thoughtful scores reverse the normal and expected pattern for the communicators selected. That is, the "warm" individual is low and the "cold" individual is high in this trait. The profile scores of the cluster and associated traits of the four communicators selected, and used, from the class of speech students appear in Table VI.

TABLE VI

TEMPERAMENT PROFILES OF "WARM-COLD" TRAITS OF SELECTED COMMUNICATORS[a]

Traits	Communicator			
	1	2	3	4
Emotional stability	7	6	5	3
Objectivity	8	8	5	2
Friendliness	8	7	4	2
Personal Relations	9	8	6	5
Thoughtfulness	4	3	8	6

[a]For complete profiles of these and all other communicators in sample, see Appendix A, Table II.

The communicators are always referred to by number in the remainder of this report. They may be perceived as: 1. "warm" with the highest profile scores in the cluster of traits; 2. as intermediate, but more "warm" than "cold;" 3. as intermediate, but less "warm" than "cold;" and, 4. "cold" with the lowest profile scores in the cluster of traits.

Preparing and selecting the messages: The messages were a critical variable. To control these their content--agricultural information--their difficulty, and their interest were standardized.

To control a major variable, interest, five messages were prepared from which two were selected for use in the communication. The first message prepared concerned the cost of raising children, and was based on an article from the Journal of Farm Economics.[1] The second, third, and fourth were on the subjects of dairy feed costs,[2] hog prices,[3]

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[1]James D. Tarver, "Costs of Rearing and Educating Farm Children," Journal of Farm Economics, XXXVIII (February, 1956) pp. 144-153.

[2]C. R. Hoglund, E. J. Benne, L. V. Nelson, and C. F. Huffman, "Forage Quality and Protein Feeding of Dairy Cows," Michigan State University Quarterly Bulletin, XXVI (March, 1956) pp. 413-430.

[3]Harold Riley, What Is The Most Profitable Weight To Market Hogs? (Extension Bulletin 321, Michigan State College Cooperative Extension Service, East Lansing, Michigan, 1953, 11 pages.

and the elm bark beetle[4] respectively, and were prepared from literature published by Michigan State University. In the fifth, eggs were the subject and the materials were obtained from the office of Marketing Information for Consumers.[5]

To control the difficulty and human interest the messages were equated by the Flesch[6] formula. A comparison of their Flesch scores is presented in Table VII, page 61.

One major variable remained uncontrolled--message interest. To solve this the messages were reproduced and 15 packets containing the 5 messages were assembled with 5 copies of the interest evaluating scale, which consisted of five, five-point interest scales, ranging from "very interesting" to "no interest." Return envelopes were attached to the packets. The 15 completed packets were distributed to selected groups, where they were randomly circulated. The selected groups included speech instructors, journalism instructors, agricultural economists, information specialists, and consumer information personnel. In all, 25 replies were received from the message interest survey.

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[4]F. C. Strong, R. L. Janes, and W. F. Morofsky, Dutch Elm Disease Control, (Extension Folder F-195, Michigan State College, Cooperative Extension Service, East Lansing, Michigan, 1955).

[5]L. B. Darrah, and E. M. Moore, Egg Merchandising Studies in Supermarkets, V. Transparent Egg Cartons, (Cornell University, College of Agriculture, Agriculture Extension Leaflet 1012, April, 1956), 9 pages. (A progress report.)

[6]Rudolf Flesch, The Art of Readable Writing, (New York, Harper and Brothers, 1949), 237 pages.

TABLE VII

MESSAGE DIFFICULTY AND INTEREST SCORES

Message number	1	2	3	4	5
Number of words	521	518	514	501	505
Number of sentences	30	32	30	29	30
Average sentence length	16.5	16.2	17.1	17.2	16.8
Number of syllables	713	702	685	693	701
Average number of syllables per 100 words	137	135	133	139	136
Flesch reading ease score	75	78	80	78	76
Number of personal words	31	33	36	25	33
Number of personal sentences	9	13	14	10	10
Percent of personal words	6.0	6.6	7	5	6.5
Percent of personal sentences	30	40	47	34	33
Flesch human interest score	31	37	40	30	34

The replies were tabulated and messages selected for use by weighing the interest evaluating scale from +2 for "very interesting" to -2 for "no interest." The interest scores were: +22 for message 1; -22 for message 2; -17 for message 3; +12 for message 4; -12 for message 5. The complete results of the interest evaluating scale is located in Appendix B, Table I.

The decision: Use the "dairy" and "hog" messages, numbers 2 and 3 respectively, in the study as they were designated least interesting. This choice was made to eliminate any

support the communicators might receive from a message that was interesting. (Messages 1, 4 and 5 are located in Appendix B, messages 2 and 3 are located in Appendix D.)

Producing the kinescopes: Two weeks before the programs were kinescoped the four communicators who were selected were requested to participate in presenting the programs by their professor. Each accepted. Unfortunately, the individual selected for the number 1 position joined the Marine Corps before the kinescopes could be made, therefore, a substitution was necessary. After examining the remaining profiles, a second communicator was chosen who accepted, and he was designated number 1, (see Appendix A, Table II for comparative profile scores). Fortunately, a satisfactory spread remained between the originally selected communicators number 2 and number 4, Table VI, page 58.

The first time the writer and the selected communicators met personally was June 8, 1956, at 1:30 p.m. in Studio A of WKAR-TV. This was the day the kinescopes were made, and the temperature hovered in the 90's outside. In the studio it was somewhat hotter. For this reason, the communicators were permitted to make the kinescopes while wearing short sleeved shirts without ties. Before appearing on camera--not one had done so before--each received copies of the messages and was permitted to read and/or recite them privately in a room provided for that purpose. To assist in presenting the messages on camera, prompt cards with 2 inch high letters were prepared. When these were held beside the camera by

studio assistants, the communicators could see the message and were forced to look directly at the camera.

A gray cycloramic curtain provided background for the communicators. The only other objects in the camera view, except the communicator, were a desk, a chair, and a lectern placed 4 feet to the right of the desk. The only instructions given the communicators were: (1) they could move around the studio at will, and (2) they could sit on the desk top but not in the chair. The director gave all instructions and had complete charge of the studio.

After processing the kinescopes were reviewed by an expert committee who judged them satisfactory to use in the study.

Pre-testing the audience learning and the communicator evaluation instruments: The hypotheses required the development of two instruments: (1) to measure the audience learning, and (2) an instrument to permit audience evaluation of the communicator. In the first, two problems required solution: (1) to select an instrument with sufficient sensitivity to measure the learning from the relatively short message with validity, and (2) to select an instrument sufficiently short to permit the audience to complete four tests in one hour. The cloze procedure, originally conceived as a readability formula, and later demonstrated as an effective test of learning, promised to fulfill these requirements. This was selected as the first instrument to develop. The first step in cloze procedure:

> ...is to 'mutilate' all samples. This is done by choosing a mechanical system of deleting the same number of words from each; words are either 'counted out'--every fifth one, for example, might be deleted --or they are selected by use of a table of random numbers.
>
> The mutilated passages are then mimeographed, or otherwise reproduced with all missing words replaced by standardized blanks. Subjects are asked to 'cloze up the gaps' in the passages by guessing the identities of the missing words and writing their guesses in the corresponding blanks.
>
> Each time a subject correctly guesses a missing word, he scores one point; his 'cloze score' for any particular passage is simply the total number of missing words that he guesses correctly.[7]

A series of four instruments were developed using the entire message as the testing instrument. An original standard of removing one-fifth the message by both mechanical or random deletion presented two problems when tested: (1) time, each required 20 to 30 minutes to complete, and (2) information, it appeared that in these particular messages that too few meaningful words were removed. After lengthy discussion an instrument was constructed in an effort to overcome these problems, but yet use the cloze technique. This procedure removed every fifth five letter word mechanically from the message. In pre-testing, the difficulty of this latter instrument was higher than the preceding ones but it proved as efficient as the former instruments, and people could complete the 40 blanks when tested in an acceptable length of time--10 minutes. Five more words were stricken from the dairy than the hog message.

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[7]Wilson L. Taylor, "Recent Developments in the Use of 'Cloze Procedure'," Journalism Quarterly, XXXIII (Winter, 1956) p. 43.

An instrument developed by Osgood[8] was selected to obtain an audience evaluation of the communicator. It is simple to use, and has reliabilities in the .80-.85 range. A subject is required to indicate his reaction to a concept by placing an X on a line. In this instance, the problem was determining the subject's reaction to the concept of the hog and dairy speaker even though they were different individuals in the study.

The instrument appeared to a subject like this:

_____ Speaker

pleasant ___:_X_:___:___:___:___: unpleasant

The word dairy, or hog, preceded speaker, and referred to the communicator--the concept--presenting the message on these subjects. Thus, the term hog speaker or dairy speaker was the concept. The term "pleasant-unpleasant" and others were selected from those isolated by Osgood,[9] as being associated with the three dimensions of a concept. By placing an X along the scale the subject indicated his attitude toward the concept.

The meaning of a concept is regarded as its location in a multidimensional space, and attitude toward that concept is its projection on one of the dimensions of meaning--the evaluative.[10]

To obtain an indication of whether or not the strength or activity dimension were operating if the evaluative dimension

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[8]Osgood, op. cit.

[9]Ibid.

[10]Tannenbaum, op. cit., p. 416.

of the concept did not operate two scales were included in the instrument for each of these dimensions. The evaluative dimension represented the basic instrument and contained three scales.

The terms selected for the evaluative dimension were "pleasant-unpleasant," "good-bad," and "friendly-unfriendly." The term "warm-cold" was not used as it was the purpose of the three evaluative scales to indicate the subjects reaction to the "warm-cold" personality qualities of the communicator; and to introduce this term as a scale did not seem appropriate as one of the principle efforts was to determine the effect of the "warm-cold" personality when pre-conditioning terms were not used.

The purpose of the semantic differential was to validate the Guilford-Zimmerman Temperament Survey. If the subjects evaluated the speakers in the same pattern as the Survey a reasonable amount of certainty would exist that it--the Survey--did distinguish "warm-cold" personality qualities.[11] There was included following the semantic differential a question: "Which speaker do you think is a cold impersonal individual?" The purpose of this question was to provide a check on the face validity of the evaluative scale as a measure of "warmth." If the attitudes expressed on the evaluative

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[11] If the subjects evaluate the communicators the same as the Survey it is significant at the .05 level of confidence by rank correlation. (Sidney Seigel, Nonparametric Statistics for the Behavioral Sciences, McGraw-Hill, New York, 1956, p. 284.)

instrument were supported by the answers to this question they probably both measured in the same area.

The combined cloze and semantic differential tests were finally pre-tested by a class of speech students who viewed the kinescopes August 20, 1956. The procedure used and results obtained were satisfactory, and the instruments were accepted. Copies of the test instruments are located in Appendix C.

Obtaining the audiences: The criterion establishing the audience size was the problem of statistical analysis. Thus, the first audience to view the program required at least 30 persons, or a total of 120. Several efforts to obtain rural people for audiences were made without success. Arrangements were made with the Lansing Volunteers of America, Incorporated, to present the programs to elderly persons--65 years and over--that assembled monthly under the auspices of this organization. On the nights of September 18 and 19, 1956 those persons present were divided into audiences to view the program sequences. These subjects were unable to complete enough of the test instruments to use in the study.

Finally, two sources of student subjects were obtained. The Speech Department of the University furnished 145 students who donated 1 hour of their time to view a program sequence. To obtain this number, several of the programs were repeated. In addition the authorities of the Stockbridge Community School, Stockbridge, Michigan, granted permission for 85 students--three vocational agriculture classes, and one sociology class--to view the programs.

Design

The independent variable of this study was the temperament quality "warm-cold." To isolate this quality the design required controlling the method of selecting the communicators, the message subject, the message difficulty and interest level, the method of presentation, securing satisfactory instruments to discriminate among the communicators, and finally, the pattern in which the audience would view the programs and evaluate the communicators.

The programs were presented in a relatively simple pattern. This was possible because order effect of message and learning, or evaluation of the communicator, were not being studied. It was impractical to investigate order effect as the required tests permitted a single audience to view but two speakers at one sitting, and a second evaluating session with the same students could not be arranged. To prevent an inflation of the N in calculation and produce biasing effects thereby the data were analyzed by separate speeches. The types of audiences, high school and college, are analyzed as a composite audience and as individual audiences. The presentation pattern used is given in Table VIII, page 69.

The pattern for collecting data used here was appropriate because the state of knowledge concerning the problem did not justify a more complete statistical design. It was felt that preliminary investigation might demonstrate the need for a more complex design on the basis of the present design.

TABLE VIII

COMMUNICATOR, PROGRAM PRESENTATION SEQUENCE[a]

Messages	Communicator 1	2	3	4
Hog	Aa	Bb	Cc	Dd
Dairy	Dd	Aa	Bb	Cc

[a]College audiences are referred to by upper case letters and high school audiences by lower case. This method of identification is used throughout the remainder of this report.

Procedures

Each audience received the same directions and materials in the standard procedure used to collect the data. The principal variation from this procedure was the distance the projectionist was required to set the 16 millimeter movie projector from the screen on which the kinescopes were viewed by the audience. This distance varied from 30 feet for the college audience to 16 feet for the high school audience. The difference was a result of space limitations in which to place the equipment in the high school classroom.

The problem of obtaining approximately 30 persons for each condition was solved by accumulating subjects in small groups, viewing the same sequence of communicators, until 30 or more persons viewed that particular sequence. To obtain the required number of college students in each audience, 14 viewing and evaluating sessions were held in room 49 of the Auditorium between October 10, and November 15, 1956. These groups varied in size from 1 to 38 persons, but generally

about a dozen male and female subjects were present.

The writer conducted each session. After the group of subjects were seated and the class hour started the subjects were introduced first to the writer, then to the study procedure:

> We wish to thank you for giving this hour of your time. Shortly you will be shown two kinescopes of television programs. We are interested in your ability to retain information from the messages the speakers who appear in the program present.
>
> To obtain this information we ask that you complete four forms (held up in a fan shape).
>
> Please note the colors are different--green, yellow, pink and white. You will receive the green form first, (held up) and have 11 minutes to complete this one. (A little extra time was permitted for the first test to permit the subject to familiarize himself with the instructions and method of cloze procedure.) Please follow the instructions which appear on the front sheet. After you have completed the green form the first kinescope will be shown. Then you will receive the yellow form (held up). For this one, only 10 minutes will be allowed for completion.
>
> Next you will receive the pink form (held up) which follows the same procedure, but contains a different message. To complete this you will have 10 minutes. The second kinescope will then be shown. The last thing we ask of you is to complete the white form (held up).
>
> Please work rapidly as you fill in the blanks contained in the various forms. These are copies of the messages you will hear presented via the kinescopes.
>
> We expect to complete the entire session within 55 minutes.
>
> I should like to call your attention, especially, to the instructions preceding the last page of the yellow and white form. (Open one and show, then turn the page to the semantic differential.) You are requested to place an X along each of the 7 scales you see here to indicate your attitude toward the speaker.

The green form containing the cloze test of the hog message was distributed immediately. Normally an individual

asked a question concerning the procedure and these were answered individually. By rigidly controlling the time limitations, the sessions were completed within 53-58 minutes, depending upon the size of the group present.

Summary

In this chapter the sub-areas, the design, the procedure of the problem are described. The sub-areas included the selection of the communicators, preparing the messages, making the kinescopes, pre-testing the evaluating instruments, and obtaining the audiences.

The study was designed to select by objective means communicators who theoretically possessed the "warm" and "cold" personality qualities. Likewise, the control procedures were designed to evaluate these qualities in the communicators. Throughout the design and data-collecting procedures the attempt was made to eliminate from the study pertinent extraneous factors. The communicators were not introduced, and the subjects did not receive a preconditioning message. Potential prestige factors involving clothing were held at a minimum level by having the communicators appear in similar dress. The messages were controlled for difficulty and interest. The individual subject participating in the study was, therefore, able to respond within the limits of the control to the individual communicator, as he personally perceived him as a "warm" or "cold" individual. However, this act occurred without any knowledge on his part.

CHAPTER V

RESULTS AND ANALYSIS

The 225 subjects participating in the study were divided into eight audiences--four college and four high school, The college audiences are referred to as A, B, C, and D and contained 38, 34, 37, and 31 subjects respectively; high school audiences are referred to as a, b, c, and d and contained 22, 19, 28 and 16 subjects respectively. High school audience c was a sociology class of girls. Each of the other high school classes were boys in Vocational Agriculture. College audiences represent a heterogeneous group.

Compilation of data did not begin until all the audiences viewed the programs. The first step consisted of assembling and transferring raw data, with the aid of a coding system, from the original forms to a set of master sheets. This made subsequent work simpler.

It is the purpose of this chapter to present the results of the arithmetical and statistical computations. The attitudes expressed by the audiences are presented first, followed by audience learning, and then the correlations between attitude scores and learning scores. Each area gives first the results from the composite audience, that is Aa, then the audiences are subdivided into individual audiences, that is

A and a, for complete analysis.

Expressed Attitudes

The three evaluative semantic differential scales are composited to obtain an individual attitude score. The scale for the evaluative dimension ranges from 3 (positive attitude) to 21 (negative attitude), and similarly from 2 to 14 for the strength and activity dimensions.

The audience attitudes expressed toward four communicators varied from a score of 6.77 to 12.57, for communicators 4 and 1 respectively, when viewed in that order in the same sequence, Table IX.

TABLE IX

MEAN ATTITUDE SCORE OF AUDIENCES

Attitude Scale	Communicator 1	2	3	4
Evaluative				
Hog message	11.06	8.66	10.60	6.85
Dairy message	12.57	10.37	11.35	6.77
Strength				
Hog message	7.04	6.69	7.41	7.32
Dairy message	6.59	8.77	5.86	7.86
Activity				
Hog message	7.32	7.30	7.97	7.13
Dairy message	7.17	7.98	7.32	7.30

This table shows the attitudes expressed by the audiences consistently ranked the communicators as having "warm" personality qualities in 4, 2, 3, 1 order. This ranking occurs without regard for audience or message. It also shows that

every communicator, with the exception of communicator 4 who is for all practical purposes equally evaluated, received a higher--or more "cold"--rating when presenting the dairy message. This suggests that more favorable attitudes are expressed toward communicators, or individuals, when immediate comparison is not possible.

Table IX also shows that only the evaluative dimension of the semantic differential proved a consistent instrument for audience evaluation of the communicators. The strength scale fluctuates from one message to another indicating that position may have been a factor in evaluating the strength of a communicator. Activity scores are neutral. These results indicate the scales were not accurate for the measurement expected or the perceived differences between the communicators were insufficient to produce positive or negative response. Further analysis of these concept dimensions will not be included. The mean scores for the individual scales obtained for the strength and activity dimension are located in Appendix D, Tables I and II.

When we examine the expressed attitude scores for the different audience group we find a high degree of agreement existing between the group ranking and the overall ranking, Table X, page 75. An examination of this table shows that a perfect agreement exists among the audiences in ranking communicator 4 most positively, or "warm." Communicator 2 receives three scores for second place, with communicators 1 and 3 receiving the least agreement as to position. Further examination of Table X, clearly indicates that high school students

TABLE X

MEAN EVALUATIVE DIMENSION SCORES OF HIGH SCHOOL AND COLLEGE AUDIENCES

Audience	Communicators 1	2	3	4
	Hog Message			
College	A 11.28	B 9.23	C 11.18	D 7.90
High School	a 8.77	b 7.60	c 10.03	d 5.12
	Dairy Message			
College	D 13.45	A 11.13	B 13.73	C 6.67
High School	d 11.00	a 8.95	b 7.10	c 7.03

express more positive attitudes than college students. Generally, the communicators received a more negative rating from both groups when they gave the dairy message. The exception, with the college audience C, is when communicator 4 is viewed giving the dairy message, and with the high school audience c viewing communicator 3 giving the hog message.

Audience c, all girls, expressed attitudes more nearly like those of the college audience. For a comparison of attitude scores expressed on each scale by the audiences see Table XI, page 76. Here the reader will note that audience c perceived communicators 3 and 4 as more unpleasant than the college audiences. These differences were also

TABLE XI

ATTITUDES EXPRESSED BY AUDIENCES ON INDIVIDUAL EVALUATIVE DIMENSION SCALES

Scale	Audience[a] A	Aa	B	b	C	c	D	d	
				Hog Message					
Pleasant	4.16	2.68	3.00	3.00	3.57	3.71[a]	2.55	1.69	unpleasant
Good	5.11	3.54	3.18	2.74	4.12	3.21	3.35	1.93	bad
Friendly	2.79	2.54	2.91	1.89	4.09	3.10	2.32	1.50	unfriendly
				Dairy Message					
Pleasant	3.68	3.04	4.56	1.89	2.02	2.28[a]	4.61	3.68	unpleasant
Good	4.08	2.95	4.50	2.89	2.22	2.53	5.19	4.37	bad
Friendly	3.39	2.91	4.44	2.31	2.35	2.21	3.67	2.81	unfriendly

[a]It is interesting to note that audience c composed of high school girls was consistently more negative in their evaluation of the communicators viewed, 3 and 4, than the high school boys who composed audiences a, b, d.

found in the strength and activity scales, (see Appendix D, Tables I and II).

Normally an instrument and subjects are more efficient and accurate in evaluating the extreme rather than the mean condition. In Tables IX and X we find that attitude toward the communicator who is perceived as most "warm" changes little as a function of position or audience. While the other communicators receive different ratings from different audiences, Table X. This observation suggests: (1) that audience attitude toward communicator 4 is such that this individual is perceived as approaching the "warm" end of the "warm-cold" continuum while the other communicators probably represent the mean of the continuum without a clearly "cold" individual among them; (2) that a communicator who is to appear on television with another individual and who may be perceived as "cold," or negatively, should be given first position as the attitudes of the audience will not be as extreme as when immediate comparison is possible between a communicator perceived positively followed by one who is perceived negatively.

To check the validity of the evaluative dimension of the semantic differential the audience members were asked to choose between the two communicators viewed. Their response to the question, "Which speaker do you think is a cold impersonal individual?" represented their designation of a communicator as "cold." Two boxes were provided for checking their replies--one for the "hog speaker" and one for the "dairy speaker." It is true that this instrument is not as

sensitive as the semantic differential with its three scales of seven intervals each, but it has face validity, and it is a simple device for checking the validity[1] of the basic instrument.

The response to the validating question, Table XII indicates the semantic differential is a valid instrument for

TABLE XII

AUDIENCE ATTITUDE INTENSITY EVALUATIVE DIMENSION AND THE PERCENT OF AUDIENCE DESIGNATING A COMMUNICATOR "COLD"

Communicator[a]	Message			
	Hog		Dairy	
	Attitude	"Cold"	Attitude	"Cold"
4	6.85	31.2%	6.77	21.0%
2	8.66	35.3	10.37	50.0
3	10.60	79.0	11.35	64.7
1	11.06	50.0	12.57	68.0

[a]Ranked in order of "warm" evaluation.

assessing audience ranking of communicators as "warm" or "cold" on the basis of their expressed attitudes. From this table we see that when the subjects were forced to make a choice between communicators the evaluative dimension of the semantic differential has reliability, and a measure of validity. With one exception, communicator 1 for the hog message, as attitude to-

[1]"Test validity is generally defined as the extent to which the test 'measures' what it is supposed to measure." (Dorothy C. Adkins, Construction and Analysis of Achievement Tests, Superintendent of Documents, Washington, D. C., 1947, p. 148.)

ward a communicator becomes more favorable, that is expressions of "warmth," the percentage of audience members designating him a "cold" individual decline.

As a group the audience members were incapable of designating one communicator "cold" when their expressed attitudes were relatively equal by cardinal measurement. The effects of this disparity in attitude when measured by as sensitive an instrument as the semantic differential is demonstrated in Table XIII.

TABLE XIII[a]

RELATIVE ATTITUDE RANGE AND DESIGNATION OF COMMUNICATOR AS "COLD"

Audience	Aa	Bb	Cc	Dd
Audience size	60	53	65	47
Audience N making decision	58	48	62	45
Communicator sequence	1-2	2-3	3-4	4-1
Hog message				
Percent "cold"	50	35.3	79	31.2
Evaluative attitude intensity	11.06	8.66	10.60	6.85
Dairy message				
Percent "cold"	50	64.7	21.0	68.8
Evaluative attitude intensity	10.37	11.35	6.77	12.57
P level by sign test	--	.01	.01	.01

[a]Read this table so communicator sequence 1 - 2 gives information for communicator 1 on hog message and communicator 2 on dairy message, for audience Aa, etc.

When one examines Table XIII he finds that attitude intensity, that is an attitude beyond a certain scale interval, is not associated with the audience designation of a communicator as "cold;" but, the designation of "cold" is associated with the range between expressed attitudes without regard for position along the attitude scale. That is, the greater the actual range of attitudes expressed, the greater the percentage of the audience who designates the communicator receiving the higher attitude scores (more negative) as "cold." This occurs even though the expressed attitude intensity in one position is not as great as that expressed towards the same communicator in another position. This observation implies that "warm" and "cold" are not actually extremes of a definite continuum, but are a function of range in attitudes resulting from the way one perceives a communicator, or an individual. For example, audience Aa viewed communicator 1 and 2 and expressed relatively equal attitudes. When they were asked to designate a communicator as "cold" the overall audience divided equally. But, when communicators 2 and 3 were viewed by audience Bb the expressed audience attitude intensities were sufficiently separated that 28.6 percent more audience members designated communicator 3 a "cold" individual. Similar effects of differences in attitude intensity occur in audiences Cc and Dd.

The findings discussed above are repeated when the audiences are analyzed as separate groups, Table XIV, page 81.

In Table XIV one reversal, audience A, and a tie,

TABLE XIV

AUDIENCE GROUP EVALUATIVE ATTITUDE SCORES AND DESIGNATION OF COMMUNICATOR AS "COLD"

Audience Group and N designating speaker "cold"	Communicator Sequence 1 - 2	2 - 3	3 - 4	4 - 1
College audience[a]	A	B	C	D
Hog speaker	17 (11.28)	8 (9.23)	32 (11.18)	11 (7.90)
Dairy speaker	18 (11.13)	22 (13.73	2 (6.67)	18 (13.45)
No decision	1	4	3	2
High School audience	a	b	c	d
Hog speaker	10 (8.77)	9 (7.60)	16 (10.03)	3 (5.12)
Dairy speaker	12 (8.95)	9 (7.10)	12 (7.03)	13 (11.00)
No decision		1		

[a]Read each communicator sequence and audience; communicator 1, audience A, 17 designations "cold" attitude rating 11.28; communicator 2, audience A, 18 designations "cold," etc.

audience b, prevents a perfect correlation between expressed audience attitudes and audience designation of the communicators as "cold." However, the number of ranks that exist are sufficient to indicate at the .01 level of confidence[2] that negative or more intense attitudes are associated with "cold."

Thus we have a reinforcement of the observations from Table XIII. The inability of audiences who express practically

[2]Seigel, op. cit.

equal mean attitudes to designate one of the two communicators viewed "cold" holds even when the size of the audience is small--audience b deciding between communicators 2 and 3. The reinforcement provided to the evaluative dimension demonstrates tnat the audiences were capable of making this designation when attitude range increased. This support indicates that "cold" is a connotative word, and is associated with negative attitudes expressed toward the personality qualities possessed by an individual.

The differences in attitude expressed toward the communicators are statistically significant. The established level for acceptance of differences is arbitrarily established at the .01 level of confidence. The significance of differences calculated by the t test[3] are presented in Table XV.

TABLE XV[a]

STATISTICAL DIFFERENCES IN ATTITUDE EXPRESSED TOWARD COMMUNICATORS : COMPOSITE AUDIENCES

Hog Message					Dairy Message				
Communicator	4	2	3	1	Communicator	4	2	3	1
4	x	2.36[b]	5.67	5.59	4	x	5.61	6.10	9.79
2		x	2.92	3.21	2		x	--	3.02
3			x	--	3			x	--
1				x	1				x

[a]Communicators ranked in order of "warm" evaluation.
[b]All D.F = 40 2.33 significant .03 level 2.70 significant .01 level.

[3]Wilfrid J. Dixon, and Frank J. Massey, Jr., Introduction to Statistical Analysis, (McGraw-Hill, New York, 1951, p. 103).

Table XV shows that the critical difference between communicator 4 and communicator 2, perceived by the audiences as "warm" and "warm-cold" respectively, does not attain the .01 level of confidence. The .03 level attained is an indication of a trend of difference which is later established between communicator 4 and communicator 2 in the dairy message. As would be expected significant differences are observed between communicator 4 and 3, and 4 and 1, as the range of attitudes increase between these communicators. It follows that a significant difference existing between communicators 4 and 2 would also be associated with these differences between communicator 4 and the remaining communicators. These statistical differences in attitude and the previous observations indicate that communicators 4 and 2 were perceived as possessing personality qualities different from those of communicators 3 and 1, and that communicator 4 very likely possessed more of a personality quality called "warm" than communicator 2.

The audience reactions to the communicators therefore do not support the first hypothesis. The communicators were ranked by the audience as possessing "warm-cold" personality qualities in the order 4, 2, 3, 1 as opposed to the communicators self-ranking via the Survey of 1, 2, 3, 4. Questions may be raised particularly about the ability of the Survey to measure the temperament trait friendliness in an individual. A re-examination of Table VI, page 58, shows that communicator 4 had the lowest friendliness score, yet when the semantic

differential scale is re-examined, Table XI, page 76, we find that communicator 4 consistently received the most positive or highest rating of friendliness. One must conclude that the cluster of temperament traits studied were not those associated with the personality quality "warm-cold," or other traits not correlating with the cluster studied interact to influence audience perceptions. The magnitude of audience reaction toward tne communicators selected for study shows that the personality quality "warm-cold" exists, at least as a stereotype for positive and negative reactions; but the instrument selected did not quantify this quality accurately for audience perceptions.

Audience Learning

The differences between each subject's pre- and post-test cloze scores represented the measure of learning. These difference scores ranged from -2 to +18 words with practically all the negative cloze scores appearing from the dairy messa e. This suggests the limits of testing effort were exceeded for a few subjects, and should not be considered a reflection on the instrument. When tested by the sign test[4] a significant--.01 level of confidence--number of subjects received positive cloze scores.

Since words were removed from the hog message and from the dairy message it is necessary to transform scores into

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[4]Siegel, op. cit., p. 68.

percentages for comparability. (For the hog message each word represents 2.77 percent of the possible maximum score, and for the dairy message 2.43 percent.)

As the reader would expect the college audience group learned more cloze words from the messages than the high school audience group. The average college subject learned 7.62 cloze words from the hog message, and 6.53 cloze words from the dairy message, while the average high school audience subject learned 4.81 words from each message.

Learning in the audiences varied between a high of 21.77 percent from the hog message, and communicator 3, by audience Cc and a low of 12.39 percent for audience Aa from communicator 2, giving the dairy message, Table XVI.

TABLE XVI

AVERAGE AUDIENCE LEARNING
(cloze score)[a]

Communicator	1	2	3	4
Hog message				
Audience	Aa	Bb	Cc	Dd
Words learned	5.36	5.43	7.86	6.78
Percent	14.84	15.04	21.77	18.78
Dairy message				
Audience	Dd	Aa	Bb	Cc
Words learned	6.34	5.10	6.04	6.15
Percent	15.10	12.39	14.67	14.94
Average learning	15.22	13.71	18.22	16.68

[a]The percent of the message learned is calculated by multiplying the cloze score for the hog message by 2.77, and cloze score for the dairy message by 2.43. These factors were required because an unequal number of five letter words were removed from the messages to prepare the cloze tests.

On first analysis Table XVI would indicate that differences exist between the communicators efficiency if we assume the different audiences learned equally. Actually this is an artifact resulting from: (1) differences in value of words learned from the messages, and (2) differences in audience ability to learn. The t test of significant differences shows that these created differences are significant at the .01 level of confidence between communicator 3 and communicators 1 and 2 for the hog message. (See Appendix D, Table III.)

The differences existing between the audiences ability to learn cloze words from the communication may be seen in Table XVII and Table XVIII.

TABLE XVII

AVERAGE AUDIENCE LEARNING SCORE
(Hog Message)

Audience	N	Communicator 1	2	3	4
A	38	6.31			
B	34		5.64		
C	37			9.29	
D	31				8.22
a	22	3.72			
b	19		5.05		
c	28			5.96	
d	16				4.00

TABLE XVIII

AVERAGE AUDIENCE LEARNING SCORE
(Dairy Message)

Audience	N	Communicator 1	2	3	4
A	38		5.34		
B	34			6.47	
C	37				6.83
D	31	7.67			
a	22		4.68		
b	19			5.26	
c	28				5.25
d	16	3.75			

It is of particular interest to observe the audience learning associated with communicator 3, in C. We cannot tell, of course, but the higher learning score of audience C and also c may be due in part to communicator 3. The difference in c may also be attributed to the fact that the members of this audience were high school girls.

At the outset of this section mention was made of the difference in average learning of cloze words between college and high school audiences, namely that college audiences learned less from the dairy message than the hog message while high school audiences learned equally on the average from both messages. A scrutiny of the above tables shows that this decline in learning by college audiences is primarily caused by audience C and its different response to communicators 3 and 4.

The greatest decline in learning among the high school audiences is also in audience c between communicators 3 and 4. Learning increases and decreases among other audiences and communicators, but not with the magnitude observed in these subjects. It is unreasonable to assume that differences in learning ability fluctuate this rapidly.

Studies of perception have found that tension and learning are associated. If intensity of attitudes and designation of a communicator as a "cold" individual are associated with tension, and it seems reasonable to assume they are, learning may increase as we observe here in the short run situation. It is reasonable to suggest that when a communicator who follows another who has produced these conditions of tension is perceived positively audience members relax and learning declines.[5]

Audience learning of cloze words ranks the communicators 3, 4, 2, 1 for the hog message and 1, 4, 3, 2, for the dairy message. Communicator 3 produced sufficient learning to rank second in learning produced in three of the four audience groups. This suggests that some correlation may exist between the positive perception of a communicator and his ability to effectively transmit the message.

Thus, we find that expressed audience attitudes ranked the communicators 4, 2, 3, 1 and audience learning from the

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[5]See especially the study of J. S. Bruner, and Leo Postman, "Tension and Tension Release as Organizing Factors in Perception," Journal of Personality, XV (June, 1947) pp. 300-308.

messages conveyed by the communicators ranked them 3, 4, 1, 2 in average learning produced.

Correlation of Attitude and Learning

The relationship between the attitude expressed by the audience members and their learning of cloze words was determined by product-moment correlation. The Y axis ranged from 1 to 21 corresponding to the range of learning scores of -2 to +18 respectively. The X axis ranged from 3 -- positive -- to 21 -- negative -- for the evaluative dimension, and from 2 to 14 for the strength and activity dimensions. A negative correlation indicates high learning and the expression of positive attitudes, and a positive correlation indicates low learning and the expression of negative attitudes.

The first computations were made including all of the subjects, all the communicators, the separate messages. These may be examined in Table XIX where the reader will find that

TABLE XIX

PRODUCT-MOMENT CORRELATION: LEARNING AND ATTITUDE SCORES ALL COMMUNICATORS, ALL SUBJECTS (N 225)

Attitude Dimension	Message	
	Hog	Dairy
Evaluative	.050	.082
Strength	.088	.045
Activity	.102	-.074

that the correlations for the overall analysis were not significantly greater than zero. An N of 225 subjects requires a

correlation of .13 for significance at the .05 level.

Further analysis of learning and attitude relationships indicates the magnitude of composite and individual audience correlations are dampened in the overall analysis. The correlations for the composite audiences are presented in Table XX. The higher correlations of audience Aa and Cc approach but do not attain the .05 level of confidence.

TABLE XX

CORRELATION COMPOSITE AUDIENCE LEARNING AND EVALUATIVE ATTITUDE SCORES: HOG AND DAIRY MESSAGE

Audience	Communicator 1	2	3	4
Aa	-.03	-.23[a]		
Bb		-.07	-.08[a]	
Cc			-.21	.03[a]
Dd	-.07[a]			.12

[a]Correlations of dairy message.

The pattern observed in Table XX predominates in the correlations of the individual audiences, (see Appendix B, Table IV). However, when the audiences are divided by groups, that is, college and high school, we see that college students who expressed negative attitudes towards the communicators presenting the hog message learned fewer cloze words, Table XXI.

There are indications of a relationship between the initial attitude of college students and their learning. This is suggested by the -.40 correlation of the college students'

TABLE XXI

CORRELATION GROUP AUDIENCE LEARNING AND EVALUATIVE ATTITUDE SCORES: HOG AND DAIRY MESSAGE

Message	Audience	
	College	High School
Hog	-.40	.09
Dairy	-.05	-.08

learning and attitude scores. This correlation is significant at the .01 level; the reader is reminded a negative correlation indicates favorable attitudes and high learning. However, as the correlation that exists for the hog message is not supported by the dairy message we cannot conclude that a significant association exists between the learning of college students and the attitude they express toward the communicators.

Summary

The arithmetical and statistical analysis of the data have been presented in this chapter. The attitudes expressed by the audiences on the semantic differential evaluative dimension indicate that communicators 4 and 2 were perceived as significantly different from communicators 3 and 1. A trend in the findings indicate that communicator 4 possessed more of a personality quality "warm" than communicator 2. In ranking the communicators the audiences did not rank them as predesignated 1, 2, 3, 4, but ranked them as possessing the personality quality "warm" in 4, 2, 3, 1 order.

When answering a forced choice question requiring the

designation of one of the two communicators viewed in a sequence as "cold" the audiences consistently supported their expressed attitudes, and designated the communicator "cold" who received the audience expression of negative attitudes. An expression of attitudes by the audience of equal intensity toward the two communicators perceived in a sequence is associated with an inability of the audiences to designate one of the two communicators viewed in this situation as "cold."

A hypothesized difference in communicator efficiency did not occur. Although communicator 4 produced a consistent level of learning in those audiences viewing him--ranking second highest consistently--than communicators 2, 3 and 1, the results indicate the efficiency of communicators possessing relatively equal skill and transmitting a given message over television is equal when the message is transmitted to a captive audience.

The correlations between learning scores and expressed attitudes were not significant for the composite or the individual audiences. An unexplained exception is observed in the correlation between learning score and expressed attitude for the college audience toward the hog communicator message team.

CHAPTER VI

INTERPRETATION AND DISCUSSION

At this point we may view the study in retrospect. The purpose of this study was to test an objective means of selecting communicators; to determine how the audience evaluated the personality qualities of the selected communicators when they were perceived via television; and to determine the effect of the communicators upon audience learning.

The theoretical formulation required the substantiation of two hypotheses: (1) audience members would perceive the degree of the personality quality "warm-cold" possessed by the selected communicators, and their expressed attitudes would rank the communicators via the discriminating instrument as they ranked themselves via the instrument selected to measure this quality; (2) audiences would learn more from the communicator perceived as "warm" and less from the one perceived as "cold," and audience learning would correlate positively with the expression of positive attitudes toward the communicator. We now know that the hypotheses were not substantiated; but, that consistent findings resulted. The role of this chapter is to interpret and discuss these findings.

Interpretation

The interpretation will be presented in five areas: (1) the selected test instrument (Guilford-Zimmerman Temperament Survey--the Survey); (2) the "warm-cold" continuum and audience attitudes; (3) audience learning; (4) learning and attitudes; and (5) personality characteristics and traits.

The selected test instrument: The principal problem confronting this study was selecting an instrument that measured the temperament characteristics that Asch found subjects associating with the personality quality "warm." The Survey, which purports to measure the temperament traits independently, was accepted when the traits emotional stability, objectivity, and friendliness intercorrelated at an acceptable level in the group of communicators to which it was administered; and when these traits were found to have an acceptable range of scores assuring that a difference did exist between the communicators to be selected on the basis of their trait scores.

The speech students in the class obtained were chosen by subjectively self-administering the Survey. Therefore, the answers received to the Survey questions were subjective self-evaluation responses to an objective instrument. These evaluations were accepted as honestly offered as there were no reasons to doubt the student's integrity. Actually the answers given represented a student's perception of himself, and his perception of others perceiving him. The internalized and verbalized perceptions reported by the speech students dis-

agreed with the audience perceptions of the selected communicators as measured by their expressed attitudes.

The communicators described themselves with the aid of the Survey. Then the audience subjects were asked to perceive and evaluate the communicators through pristine eyes. Of course, this did not occur. The attitudes expressed by the audience subjects were the result of comparisons between externally and internally perceived communicators. These were three-way comparisons; between the communicator actually perceived presenting the message, all other communicators the audience subjects had perceived previously, and a hypothetical communicator possessing the attributes implied by the positive polar adjectives used for the semantic differential scales.

The method of isolating the "warm-cold" personality quality selected was either inaccurate, or the characteristics perceived by the subjects of Asch and used in this study were not the principal ones audience subjects use to distinguish and quantify the quality "warm-cold" when they perceive persons or communicators for a short period without receiving pre-conditioning messages, either by personal association or from a secondary source--verbal cues. The differences observed, in the communicators self-ranking and the audience ranking, suggest the indeterminate results may be associated with both areas.

For example, communicator 4 who received a score of 2 for the trait friendliness by the Survey was arbitrarily designated "cold." Yet this communicator consistently received

the most positive rating on the friendly scale of the semantic differential, and was consistently perceived as a "warm" individual. Referring to Appendix A, Table I, we find the profiles of communicator 1, who was substituted, and communicator 2, originally chosen, intersect that of communicator 4 only on the trait thoughtfulness. Therefore, if the measured differences exist that were indicated by the profiles communicators, or individuals, who are perceived as "warm" may have relatively low scores on most temperament traits, and the descriptions of Asch's subjects of a "warm" individual may be based to a greater extent on another group of characteristics perceived by them, but not included in this study. For a discussion of these areas see Table III, pages 45-47.

When we compare the audience evaluation of communicators via the semantic differential and the support received for this instrument from audience responses to a forced choice question the evidence is such that one concludes: the semantic differential evaluative dimension has a measure of validity as an instrument to evaluate and designate communicators, or individuals, "warm" or "cold." The difference in ranking of communicators via the Survey and via the semantic differential indicate that the Guilford-Zimmerman Temperament Survey is not a reliable instrument for differentiating among communicators as "warm" and "cold" and raises questions concerning its validity in measuring certain traits.[1]

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[1]Anastasi raises the question of validity in her comments concerning this instrument. (Anastasi, op. cit.)

The "warm-cold" continuum and audience attitudes:

Theoretically the "warm-cold" continuum has an indeterminate end. However in any situation where it is studied the limits of the continuum are restricted by the evaluating subjects' experience in interpersonal relations and their internal percepts. Thus, at some point on the positive--also on the negative--dimension of the continuum evaluating subjects become incapable of making a decision concerning the differences in the characteristics of communicators, or individuals, perceived and evaluated "warm;" just as they are incapable of designating communicators "cold" when their expressed attitudes are relatively equal at any point on the continuum. Until this impasse is obtained in the audience we cannot assume the limits of the "warm-cold" continuum for that audience are clearly defined. Therefore, we must interpret the audience reactions to communicator 4 as indicating that he approaches the limits of the "warm-cold" continuum and not assume that this limit is actually attained.

The consistency of the audience response via the semantic differential supported by their responses to a question forcing their designation of a communicator as "cold" indicates with reasonable validity that "cold" is associated with the expression of negative attitudes, without regard for the intensity of attitude expressed toward the communicator perceived negatively. For example, the audiences of this study were consistently incapable of designating a single communicator "cold" when expressed attitudes were practically

equal. This occurred for audiences A and a who viewed communicators 1 and 2 in that sequence. Yet audiences readily designated one communicator "cold" as expressed attitudes separated on the continuum without regard for the intensity of attitude expressed toward the communicators compared.

The observations of Asch,[2] and Mensch and Wishner,[3] support the findings of this study. That is, "warm" and "cold" represent a central personality quality about which people perceiving communicators, or individuals, are capable of expressing the impressions they form. Furthermore, it is demonstrated that audience attitudes are significantly correlated with audience response to designations of communicators as "warm" or "cold."

Audience learning: The audiences were able to learn cloze words from the messages. This supported the findings of many previous studies that audience members learn from messages conveyed by the medium of television.[4] Moreover, high school audiences learning scores were lower on the average than those of college audiences. This is probably a result of differences in average subject ability in the separate audience groups and of increased educational experience of college students. The class of high school girls were found to have an average learning score higher than those of

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[2]S. E. Asch, "Forming Impressions of Personality," Journal of Abnormal and Social Psychology, XLI (September, 1946), pp. 258-290.

[3]Mensch and Wishner, Op. cit.

[4]Kumata, op. cit.

boys in vocational agriculture. Though the sample is small it suggests that a difference exists in the ability of the two groups to learn.

The data did not support the hypothesis that a communicator perceived as "warm" had increased efficiency. A critical appraisal of this lack of relationship suggests that learning by members of a captive audience is not a function of who communicates the message when the message is controlled; but, is a function of the level of education and inherent ability of the audience members.

Learning and attitude: The learning scores of the 225 subjects participating did not correlate at a level indicating a significant association with their expressed attitudes. Thus, the findings of this study of communicators as a source and audience attitudes toward that source support those of Hovland[5]. That is, the learning of material transmitted in a message is not associated with attitudes expressed toward the source when that message is attended to by the individuals of a captive audience. Hovland used printed materials and made pre- and post-test observations of attitudes as compared to the use of verbal messages and post-test of attitudes in this study. However, the findings of this study are that attitudes expressed toward an anonymous source are not associated with learning by individuals in the captive audience situation.

The ability of students to learn equally well from

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[5]Hovland, op. cit.

closed-circuit television and classroom instruction is well established. However, several of these studies have indicated that attitudes expressed toward this method of instruction tend to be negative.[6, 7] This trend is indicated by the college audiences, (see Table XXI, page 91). The negative attitudes expressed toward this method of instruction may be associated with the subjects' precept comparisons of communicators mentioned in the discussion of the "warm-cold" continuum above.

Particularly important in the data is the indication that individuals who possess equal communicating skill and transmit a given message by a relatively standard method (making allowances for individual nuances) are equally efficient communicators. There has been much speculation among professional educators concerning the need for them to become at the minimum quasi-professional television performers. It would appear that such mediations are useless when telecasting to a closed-circuit audience for the purposes of transmitting informational material.

Simultaneously one must be cognizant that attitudes expressed by the total audience toward a communicator are important in increasing the effectiveness of a communication effort. We cannot tell at what point on the evaluative

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[6]Carpenter and Greenhill, op. cit. p. 54.

[7]Thomas C. Pollock, Oscar Cargill, James Loomis, and Harvey Zorbaugh, Closed-Circuit Television as a Medium of Instruction, 1955-1956, (New York University, New York, 1956, p. 22).

dimension attitudes become sufficiently negative in the audiences studied to cause them to turn to other sources for information, or change their immediate endeavors at leisure and learning to methods other than television. However, arbitrarily establishing the mid-point of the evaluative attitude scale as representing the point of total audience loss, we find that communicators 1 and 3 giving the dairy message would have an effectiveness of zero when viewed by an audience of college students, Table XIV.

When we consider the factors of method and message interest built into this study it is obvious that the effectiveness of a communicator appearing on television is inexorably associated with the audiences' expression of positive attitudes toward that communicator. As television is a competitive medium the total audience of any communicator--professional or non-professional--appearing regularly on open-circuit television is a function of the positive attitudes expressed toward that communicator and/or the message conveyed. Given a controlled message and method of presentation it is apparent that a communicator perceived "warm" will maintain a larger audience than one perceived "cold."

Personality--characteristics and traits: The subjects of Asch associated 29 characteristics with the personality quality "warm-cold" which were divided into four groups, (see Table III, page 46). The group relating to temperament qualities was selected for study and use for evaluating communicators as "warm" or "cold" individuals. It is quite possible

that the audiences would have ranked the communicators selected in the same order if the single term in the group manner, that is, formal-informal, had been substituted for "warm-cold."

In the communication situation studied the audiences did not receive pre-conditioning messages. After viewing the communicators a relatively short period they were asked to evaluate the communicators. Probably the best basis for judgments which the subjects participating had for evaluating the communicators perceived as "warm-cold" were their perceptions of their manner--formal-informal. Kohler[8] writes: "Where we do not understand their words, their manner of talking is often a better cue, ..." and it is highly possible that this concept is as important in evaluating individuals including communicators, in our own society, as that of other societies to which Kohler referred.

An examination of all the temperament traits and comment on their relationship to the attitudes expressed toward the communicator is not within the scope of this study. However, it is interesting to note that the trait scores for general activity are perfectly (positively) correlated with the "warm-cold" ranking of the communicators. This corresponds to a caution to all television communicators that movements be minimized. Such an observation may represent a spurious finding as it did not appear on the activity scale. Conversely, the association may exist in fact and our scale

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[8]Kohler, op. cit.

lacked sufficient sensitivity to detect the difference in activity that was present in the communicators.

Communicators 4 and 2 were perceived as possessing the greatest amount of a personality quality "warm" in that order. Communicator 4 ranked lowest, and communicator 2 next to lowest, on the trait masculinity. In fact, communicator 4 rated himself 0 on this trait. We have here two traits associate with preferred feminine habits, that is, low activity, and a lack of masculine interests. Though generalizing from this finding is hazardous possibly the border between masculinity and femininity is such for the successful professional television communicator that they possess this trait pattern. If they do their success may be due, in part, to the ability to be psychologically perceived as representing both sides of a personality simultaneously, and receive positive responses from both male and female audience members. Further research must answer this hypothesis.

Discussion

We observe in this study the ability of communicators to convey an identical message with equal efficiency. This implies that in circumstances where controlled messages are used--or where messages are of a relatively constant type as in agricultural service programming, news, and so forth--the communicator is simply the instrument of conveyance and of relatively little importance to the message when interest in that message dominates the communication situation. In these

situations a communicators' effectiveness is high though his efficiency is constant with that of an infinite number of other communicators, and the communication process is efficient. When messages of a constant type are being transmitted communicators are not expendables in the industry, because one is as effective as another. While in situations where message interest does not dominate they are expendables.

It does not follow, however, that the effectiveness of a communicator is always associated with the message conveyed. Even though everyone of our audiences learned regardless of the attitude expressed toward the communicator in the normal television communicating situation the attitude scales indicate that the audiences of some communicators approached zero. Given a captive audience this may be of no consequence. But, in a normal situation message interest provides at best a semi-captive audience, and at some point the expressed attitudes dominate message interest and the communicator becomes the critical factor in furthering the message reception.

Research on captive audiences cannot answer a major question relating to the link between attitudes and the communicator-message team, that is, when does one dominate the other. The point along a constant attitude scale where attitude dominates interest--to learn or attend--must be relatively consistent for major demographic groups. Locating these points, or a single point as the case might be, by analysis of a real television communication situation would contribute importantly to communication theory.

From such research the effectiveness of communicators and their position on the "warm-cold" continuum for specific types of messages may be clearly established. If the "warm-cold" quality is synonymous with the single characteristic associated with manner--formal-informal--the immediately effective communicator will be identified more readily and communication effectiveness shall be increased.

CHAPTER VII

CONCLUSIONS

1. The television audience perceives, evaluates, and responds to a personality quality that exists which is verbally described as "warm-cold." The audience responses to "cold" show clearly that this quality is associated with negative attitudes--and that "warm" is associated with positive attitudes--expressed toward the communicator perceived. The responses to this quality are not indicative of a correlation between the communicators' perception of his temperament traits and audience perceptions.
2. A difference in efficiency between communicators does not exist when skill of delivery, method of presentation, and message are relatively constant. Moreover, communicator efficiency is not associated with the attitudes expressed toward the communicators by the subjects of this study.
3. The individual subjects of a captive television audience learn from messages presented via this medium. A relationship exists between the educational level of audiences and their ability to learn.
4. A relationship did not exist between the amount learned from a message and the attitude expressed toward the communicator.

5. The evaluative dimension of the semantic differential is a reliable instrument for measuring audience expressions of their perceptions of "warmth" or "coldness" in a communicator. The strength and activity scales used in this study were not reliable instruments. Either these dimensions were not associated with the personality quality observed or were not sufficiently sensitive to detect the existing differences.
6. The cloze test is an acceptable instrument to measure learning in audiences and it discriminates effectively between levels of ability between audiences.
7. The Guilford-Zimmerman Temperament Survey as used in this study was not a reliable instrument for differentiating the degree of "warm-cold" possessed by the selected communicators when appearing on television, when compared to the ability of audiences to perceive this quality in the selected communicators. However, subsequent experiments may show another cluster of traits is possessed by communicators who are perceived "warm."

APPENDIX A

TABLE I

POSITIVE AND NEGATIVE QUALITIES OF TEMPERAMENT TRAITS MEASURED BY GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY

Positive	Negative
Emotional Stability	
Evenness of moods, interests, and energy	Fluctuation of moods, interests, and energy
Optimism; cheerfulness	Pessimism, gloominess
	Perseveration of ideas and moods
	Daydreaming
Composure	Excitability
Feeling in good health	Feeling in ill health
	Feelings of guilt, loneliness, or worry
Objectivity	
Being "thickskinned"	Hypersensitive
	Egoism; self-centeredness
	Suspiciousness; fancying of hostility
	Having ideas of reference
	Getting into trouble
Sociability	
Having man friends and acquaintances	Few friends and acquaintances

TABLE I - Continued

Positive	Negative
Sociability	
Entering into conversations	Refraining from conversations
Liking social activities	Disliking social activities
Seeking social contacts	Avoiding social contacts
	Shyness
Seeking limelight	Avoiding limelight
Personal relations	
Tolerance of people	Hypercriticalness of people; faultfinding habits
Faith in social institutions	Criticalness of institutions
	Suspiciousness of others
	Self-pity
Masculinity	
Interest in masculine activities and vocations	Interest in feminine activities and vocations
Not easily disgusted	Easily disgusted
Hardboiled	Sympathetic
Resistant to fear	Fearful
	Romantic interests
Inhibition of emotional expressions	Emotional expressiveness
Little interest in clothes and styles	Much interest in clothes and styles
	Dislike of vermin

TABLE I - Continued

Positive	Negative
Ascendance	
Self defense	Submissiveness
Leadership habits	Habits of following
Speaking with individuals	Hesitation to speaking
Speaking in public	Hesitation to speaking
Persuading others	
Being conspicuous	Avoiding conspicuousness
Bluffing	
General Activity	
Rapid pace of activities	Slow and deliberate pace
Energy; vitality	Fatiguability
Keeping in motion	Pausing to rest
Production efficiency	Low production efficiency
Liking for speed	Liking for slow pace
Hurrying	Taking time
Quickness of action	Slowness of action
Enthusiasm; liveliness	
Restraint	
Serious-mindedness	Happy-go-lucky, carefree
Deliberate	Impulsive
	Excitment loving
Persistent effort	
Self-control	

TABLE I - Continued

Positive	Negative
Friendliness	
Toleration of hostile action	Belligerence; readiness to fight
	Hostility; resentment
	Desire to dominate
Acceptance of domination	Resistance to domination
Respect for others	Contempt for others
Thoughtfulness	
Reflectiveness; meditativeness	
Observing behavior in others	
Interested in things	Interested in overt activity
Philosophically inclined	
Observing of self	
Mental poise	Mental disconcertedness

TABLE II

TEMPERAMENT PROFILES OF SPEECH STUDENTS ADMINISTERED THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY

Temperament Trait	Student Number[a]													
	5	6	19	12	14	10	7	11	3	18	13	8	2	21
Emotional stability	7	6	5	3	9	4	1	5	8	2	6	9	6	5
Objectivity	8	8	5	2	9	4	3	2	8	5	7	9	5	5
Sociability	8	8	8	6	7	5	1	6	9	10	8	7	9	8
Personal relations	9	8	6	5	9	6	2	4	8	8	4	5	7	3
Masculinity	3	6	5	0	8	7	5	3	6	4	5	6	6	5
Ascendance	7	9	7	4	6	6	4	5	8	5	7	7	6	8
General Activity	9	5	7	3	4	3	6	4	7	8	9	4	4	6
Restraint	5	8	8	2	8	6	6	2	6	4	3	7	4	6
Friendliness	8	7	4	2	10	2	3	4	6	2	4	8	5	4
Thoughtfulness	4	3	8	6	5	7	9	6	5	2	7	7	4	7
Total[b]	68	68	63	33	77	40	40	41	71	50	60	69	56	57
Selected as possessing degrees of "warm" descending order	1	2	3	4										

[a]The Survey score sheets were numbered by the professor conducting the class These numbers correspond to those of the student numbers in his record book. This arrangement permitted selecting the communicator without the disclosure of names.

[b]The communicators were selected by total score, trait score, and profile comparisons. Number 14 was originally selected as the "warm" communicator, but joined the Marine Corp before the kinescopes were produced. Thus, it was necessary to select number 5 as "warm" as neither 3 nor 8 were available on the date the kinescopes were made.

APPENDIX B

MESSAGE I

Johnny

Hello . . . Your neighbors gave us a present last night. Yes sir, they weighed him in at eight pounds even. He's a boy, and you'll be glad to know that mother and son are doing fine. His proud parents are going to name him Johnny. Johnny has lots of company this morning for there were some seven thousand like him added to our population yesterday. The effect of this on our economy may be amazing. Have you stopped to estimate what it will cost you to raise Johnny to his 19th birthday?

Well, not so long ago a study was completed at Oklahoma A and M College which gives us the cost of keeping Johnny in the family. We're glad to have him, and so are his parents . . . but, before they get done he may actually be worth his weight in copper, if not gold.

Just keeping Johnny in heat, lights, and transportation, costs two hundred eighty-five dollars a year. His doctor bill won't be too much once he comes home from the hospital. He'll only cost you twenty-two dollars the first year, but, believe it or not, that's thirty percent more than a girl would cost.

Food and clothing are the biggest items in Johnny's

budget . . . not so much until you get him to the age of six, but then, look out! At six he eats plenty, but at nine he's eating three hundred dollars worth of food a year. But when he becomes a teen-ager his food bill will climb to three hundred eight dollars each year. So you see, our food producers, processors, and distributors have a good reason to smile . . . they know Johnny is going to eat well.

Keeping Johnny in clothes the first year won't be difficult, because his wants are simple. But he'll be going around with the girls some day, and as an eighteen-year-old you can expect him to spend one hundred twenty-five dollars for clothing. The girl he'll go with will cost her parents more than that. So your Johnny isn't as expensive as far as clothing is concerned as he might have been.

Johnny isn't all costs. He's pleasure, fun, and trouble wrapped into one bundle. And some day he can earn money if and when he feels like it. Our study shows that he'll earn thirty-eight hundred dollars before he reaches his 19th birthday.

Then he can pay some of his <u>own</u> bills. But if your Johnny is a girl, you can only expect her to earn eight hundred dollars before her 19th birthday.

But all of this information doesn't bother our proud parents this morning and we're glad it doesn't. They are going to have enough bother earning the fifteen thousand dollars it takes to raise Johnny 'til he's nineteen. Regardless of what he does, Johnny is going to eat, drink, and be merry. And for each of us that means business and added customers for the

future.

Have you estimated what your Johnny will cost you or what he is going to do twenty years from now? It's time you gave it a thought.

MESSAGE 4

Dutch Elm Disease

Hello . . . I'm here to talk to you today about a killer . . . a killer called Dutch Elm Disease. It's a disease that can destroy our elm trees rapidly and completely. Therefore, I'm asking each of you to join in the effort to prevent and control Dutch Elm Disease.

Now don't leave . . . after all you have a very personal interest here . . . both legal and financial. Your elm trees contribute to the value of your property of course, . . . but did you know that in Michigan the law requires you to remove trees attacked by Dutch Elm Disease from your property . . . at your own expense?

So it's important that we watch for symptoms of this disease and know something about methods of prevention and control.

The first symptom to watch for, is a wilting branch on the elm trees you see each day . . . later on the leaves turn yellow . . . and still later, they'll turn brown. Then it's . . . too late. If you notice a limb wilting, look for small insect holes . . . these are usually found in the younger twig branches. But even if you don't find holes you should take a sample.

Now, sampling isn't difficult . . . simply cut six or more pieces at least one-half inch in diameter, and six inches in length from the . . . wilted branch . . . not from a dead branch. Tie the sample pieces together and label them. Wrap securely, in a cardboard box and mail to . . . Plant Industry . . . Michigan State University, East Lansing, Michigan. Your sample will be examined by trained persons who will forward their findings to you within fourteen days. Remember . . . take samples only from the wilted branches.

How is this disease spread from one tree to another? It's spread by a very small beetle called the Elm Bark Beetle . . . this little fellow is hardly as long as a half-dollar is thick. As he travels he carries the spores of the fungus which actually cause Dutch Elm Disease. The beetle makes the little holes I mentioned a moment ago when he feeds on the living tree. When he feeds he carries the fungus spores into the tree and thus infects the tree.

Our job is to keep the Elm Bark Beetle from boring into the healthy tree. We can do this by sanitation . . . that is, by removing all of the weak trees . . . and . . . dead limbs from the healthy ones . . . and burning them. If we burn the infected limbs soon enough, we'll destroy the beetles before they move on to a healthy tree.

Another step we can take is to apply DDT spray to elm trees twice each year. Use an emulsion type insecticide . . . these mix well with water . . . and thoroughly cover all surfaces of your elm trees. This should be done during the pre-

bud stage and again near the twenty-fifth of July each year.

Now, friends, remember that our elm trees are an investment . . . an investment in the future. We may each watch that investment grow by preventing the destruction . . . Dutch Elm Disease can cause in our own community.

MESSAGE 5

Eggs

Hello . . . did your bundle of sunshine have the quality you expected this morning? Your producer, your handler, and even you are responsible for maintaining the quality of nature's first pre-packaged food . . . the egg. This business of bringing your way each morning the versatile and attractive egg is a real science. Producers and handlers are interested that you enjoy each one.

Your friend, the producer knows how particular you are about your eggs and this influences the practices he follows. He selects his pullets knowing you want eggs of a certain shell color. He knows the size of eggs you want and are willing to pay for. He also knows that you are particular about the color of the egg yolk. Putting all of these features into the egg which itself will contain the eight essential amino acids means the producer is delivering to you a bargain.

And then, there is the problem of quality. You the consumer, have won the argument about which comes first, the chicken or the egg. Eggs for eating today are not acquainted with America's displace business man . . . the rooster. The result, many happy producers and many frustrated hens. Con-

sumers such as yourself have a law to insure egg quality in Michigan. It's Act number one-hundred and fifteen passed in 1939. This Act contains the results of your demand for quality control. As a consumer you can buy eggs, in combinations of five sizes and four qualities. I am sure that you know that size refers to the weight per dozen, while quality refers to the condition of the yolk, the white, and the size of the air cell.

Getting this high quality egg from the hen to you is a big job. You see, the hen lays eggs with holes . . . in the shell that is. High temperature and low humidity combine to change the internal quality rapidly. The producer first puts his eggs in a storage room where he keeps the temperature below 55 degrees and the humidity above 75 percent.

Normally your friend the producer sells the egg to a handler who also has a storage room. The handler employs professional candlers . . . and machinery to help with his work. Here your egg is graded, sized, and packaged for retail sale.

When your store owner receives the eggs he does his very best to make sure you get a quality product.

By the way, did you know it's possible to bring you naked eggs? Yes, that's right, naked eggs have that straight-from-the-hen quality. They are sold in plastic containers, which are better than nature's package because they have no holes.

When you walk out the door with your carton of eggs . . . or package of naked eggs . . . you can be sure you have

a top-quality product. Your friends have studied your wants and have fulfilled them, now it's up to you. Because you forgot to put your eggs in the refrigerator when you got home from the store could have caused your bundle of sunshine not to cook or taste right this morning.

INTEREST EVALUATING SCALE

CERTAINLY YOU CAN HELP. Please take ten minutes to read the attached 500-word stories. Would you be interested in them if presented over television as a straight talk? Please indicate your interest in each story by placing an X at the point on the line that corresponds to your interest. This information is being used in in a study.

STORY #1. Very interesting :____:____:____:____:____: some No interest

STORY #2. Very interesting :____:____:____:____:____: some No interest

STORY #3. Very interesting :____:____:____:____:____: some No interest

STORY #4. Very interesting :____:____:____:____:____: some No interest

STORY #5. Very interesting :____:____:____:____:____: some No interest

Please check: Male _____ female _____

Tear off this completed sheet and return it in the envelope provided. Then pass the remaining material along to one of your collegues.

Thank you,

NPAC
Ward B
Wells Hall

TABLE I

INTEREST RATINGS OF MESSAGE GIVEN BY SELECTED GROUPS

Story[a] Number	Interest scale showing number of persons expressing interest						Weighted[b] Score
1	Very interesting	11	4	7	2	1	no interest	+22
2	Very interesting		2	8	6	9	no interest	-22
3	Very interesting	1	5	5	4	10	no interest	-17
4	Very interesting	6	10	2	4	3	no interest	+12
5	Very interesting						no interest	-12

[a]Number 1 about cost of raising children; number 2, dairy feed costs; number 3, hog prices; number 4, elm bark beetle; number 5, eggs.

[b]The scales were weight +2, +1, 0, -1, -2; from "very interesting" to "no interest" respectively.

APPENDIX C

PLEASE SIGN HERE

PLEASE READ THE INSTRUCTIONS

YOU ARE HELPING WITH AN EXPERIMENT. PLEASE DO YOUR BEST ON THE PAGES THAT FOLLOW.

YOUR ASSIGNMENT IS TO PLACE THE ORIGINAL WORDS IN THE BLANKS THAT ARE FOUND IN THE ARTICLE THAT FOLLOWS.

FOR EXAMPLE:

SOMEONE WILL WIN THE PRESIDENTIAL _____ THIS NOVEMBER.

IN THE BLANK YOU MIGHT WRITE ANY NUMBER OF WORDS. HOWEVER, ONLY THREE WORDS MAKE SENSE, THESE ARE CAMPAIGN, RACE, AND ELECTION. FOR THESE ONLY (ELECTION) IS CORRECT.

WORDS ARE NOT TO BE PLACED ON THE DOTTED LINES.

NOW TURN THE PAGE AND ATTEMT TO PLACE THE CORRECT WORD IN EACH OF THE BLANKS AS YOU THINK THE AUTHOR INTENDED.

HELLO .... DID YOU market SOME HOGS THIS MORNING? IF YOU DID WERE THEY IN THE TWO HUNDRED POUND RANGE? I HOPE NOT, FOR YOUR SAKE! because BY FEEDING AN EXTRA THIRTY DAYS DURING THE months APRIL THRU AUGUST, YOU INCREASE YOUR OPPORTUNITY FOR MORE profit BETTER THAN TWO TO ONE. LET'S LOOK INTO THIS FACT.

WE BOTH REALIZE THAT THE MOST IMPORTANT THING WHEN raising HOGS IS THE NET RETURN FROM YOUR FEED, LABOR, AND INVESTMENT. BUT ..... HOW MANY TIMES IN THE PAST HAVE YOU approached HOG MARKETING BY JUST GUESSING THE WEIGHT OF YOUR HOGS AND THE DAY-TO-DAY price ? AFRAID ..... AFRAID YOUR HOGS WON'T BRING THE TOP PRICE? NOW JUST KEEP THE answer TO YOURSELF, EACH OF US HAS THIS TROUBLE.

I THINK YOU'LL BE interested IN EXTENSION BULLETIN THREE-TWENTY-ONE. IT CONTAINS A study OF THE MARKET CONDITIONS FOR THE PAST TEN YEARS. IT SHOWS THAT YOU CAN FEED TO higher WEIGHTS AT A PROFIT TWO YEARS IN THREE .... during THE PERIOD APRIL THRU AUGUST. AT LEAST THIS HAS BEEN TRUE IN THE PAST TEN years . SOME OTHER INTERESTING INFORMATION IN IT TOO, IN TABLES HELPING YOU TO MAKE decisions IN THE FUTURE.

OF COURSE, EACH OF YOU MAY HAVE A DIFFERENT SYSTEM OF raising HOGS. BUT ..... UNLESS YOU ARE A BETTER FEEDER THAN MOST .... AT LEAST eighty PERCENT OF YOUR TOTAL COSTS ARE FEED. HAVE YOU FIGURED FEED costs LATELY OR DO YOU FARM BY THE SEAT OF YOUR PANTS? KNOWING YOUR FEED COST, IS THE FIRST STEP IN deciding WHETHER OR NOT TO FEED LONGER. AND IF YOU DON'T HAVE GOOD RECORDS THE HARDEST.

TAKE YOUR FEED costs PER POUND AND MULTIPLY BY THE PRESENT WEIGHT OF YOUR HOGS. ALSO multiply PRESENT WEIGHT BY MARKET PRICE, which YOU KNOW IS REPORTED DAILY, SUBTRACT AND YOU KNOW YOUR IMMEDIATE profit .

THEN YOU HAVE THE PROBLEM OF DETERMINING YOUR PROFITS THIRTY DAYS FROM NOW. OF course WE ARE ALL BETTER THAN AVERAGE FEEDERS BUT AN AVERAGE feeder WILL NEED FOUR AND ONE-HALF BUSHELS OF CORN TO FEED ONE HOG THIRTY DAYS, FOR FIFTY pounds OF GAIN. YOUR FEED COSTS FOR THIS EXTRA FIFTY POUNDS IS important . THE BETTER YOUR RECORDS, AND THE MORE YOU KNOW ABOUT FIGURING YOUR COSTS, THE LESS RISK YOU TAKE IN holding YOUR HOGS THAT EXTRA THIRTY DAYS.

THERE ARE MANY THINGS TO consider IN MAKING A MARKETING DECISION ... TIME OF YEAR HOGS ARE READY TO market , FEED SUPPLIES ON HAND, MEAT OR LARD TYPE HOG BEING FED, THE CURRENT TREND IN HOG prices - GOING UP OR DOWN - AND MANY OTHER FACTORS.

INSTEAD OF guessing ABOUT WHAT TO DO, SEND FOR A COPY OF THE BULLETIN I MENTIONED A MOMENT AGO.

BUT ONE thing FURTHER BEFORE LEAVING TODAY .... EACH YEAR FOR THE PAST TEN years IT HAS BEEN PROFITABLE TO FEED HOGS AN EXTRA THIRTY DAYS FROM JUNE FIFTEENTH TO JULY fifteenth !

THINK ABOUT MARKETING YOUR HOGS, THEIR costs TO YOU, THE NET DOLLARS YOU CAN MAKE BY FEEDING LONGER. OF COURSE THE decisions ARE YOURS ..... BUT ..... SO ARE THE DOLLARS!

THANK YOU AND GOOD DAY .....

NOW ABOUT YOURSELF

AGE YEARS _____

SEX ☐ MALE ☐ FEMALE

EDUCATION YEARS (CIRCLE ONE)

1, 2, 3, 4, 5, 6, 7, 8,
GRADE SCHOOL

9, 10, 11, 12,
HIGH SCHOOL

13, 14, 15, 16,
COLLEGE

YOU WILL NOW BE SHOWN A KINESCOPE RECORDING, THAT IS, A RECORDED TELEVISION PROGRAM. PLEASE GIVE YOUR ATTENTION TO THE SPEAKER.

PLEASE SIGN HERE

PLEASE READ THE INSTRUCTIONS

YOU HAVE JUST HEARD THE SPEAKER PRESENT THE ARTICLE THAT YOU READ A FEW MOMENTS AGO. WILL YOU PLEASE FILL THE CORRECT WORD IN THE CORRECT BLANK AGAIN.

HELLO .... DID YOU market SOME HOGS THIS MORNING? IF YOU DID WERE THEY IN THE TWO HUNDRED POUND RANGE? I HOPE NOT, FOR YOUR SAKE! because BY FEEDING AN EXTRA THIRTY DAYS DURING THE months APRIL THRU AUGUST, YOU INCREASE YOUR OPPORTUNITY FOR MORE profit BETTER THAN TWO TO ONE. LET'S LOOK INTO THIS FACT.

WE BOTH REALIZE THAT THE MOST IMPORTANT THING WHEN raising HOGS IS THE NET RETURN FROM YOUR FEED, LABOR, AND INVESTMENT. BUT ..... HOW MANY TIMES IN THE PAST HAVE YOU approached HOG MARKETING BY JUST GUESSING THE WEIGHT OF YOUR HOGS AND THE DAY-TO-DAY price ? AFRAID ..... AFRAID YOUR HOGS WON'T BRING THE TOP PRICE? NOW JUST KEEP THE answer TO YOURSELF, EACH OF US HAS THIS TROUBLE.

I THINK YOU'LL BE interested IN EXTENSION BULLETIN THREE-TWENTY-ONE. IT CONTAINS A study OF THE MARKET CONDITIONS FOR THE PAST TEN YEARS. IT SHOWS THAT YOU CAN FEED TO higher WEIGHTS AT A PROFIT TWO YEARS IN THREE .... during THE PERIOD APRIL THRU AUGUST. AT LEAST THIS HAS BEEN TRUE IN THE PAST TEN years . SOME OTHER INTERESTING INFORMATION IN IT TOO, IN TABLES HELPING YOU TO MAKE decisions IN THE FUTURE.

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TAKE YOUR FEED costs PER POUND AND MULTIPLY BY THE PRESENT WEIGHT OF YOUR HOGS. ALSO multiply PRESENT WEIGHT BY MARKET PRICE, which YOU KNOW IS REPORTED DAILY, SUBTRACT AND YOU KNOW YOUR IMMEDIATE profit .

THEN YOU HAVE THE PROBLEM OF DETERMINING YOUR PROFITS THIRTY DAYS FROM NOW. OF course WE ARE ALL BETTER THAN AVERAGE FEEDERS BUT AN AVERAGE feeder WILL NEED FOUR AND ONE-HALF BUSHELS OF CORN TO FEED ONE HOG THIRTY DAYS, FOR FIFTY pounds OF GAIN. YOUR FEED COSTS FOR THIS EXTRA FIFTY POUNDS IS important . THE BETTER YOUR RECORDS, AND THE MORE YOU KNOW ABOUT FIGURING YOUR COSTS, THE LESS RISK YOU TAKE IN holding YOUR HOGS THAT EXTRA THIRTY DAYS.

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THINK ABOUT MARKETING YOUR HOGS, THEIR costs TO YOU, THE NET DOLLARS YOU CAN MAKE BY FEEDING LONGER. OF COURSE THE decisions ARE YOURS ..... BUT ..... SO ARE THE DOLLARS!

THANK YOU AND GOOD DAY .....

INSTRUCTIONS

ON THE NEXT PAGE YOU WILL FIND A SET OF SCALES THAT LOOK LIKE THIS:

PROFESSORS

RICH:___:___:___:___:___:___:___:POOR

WE WOULD LIKE FOR YOU TO EXPRESS YOURSELF ABOUT THE IMPRESSIONS THIS SPEAKER HAS MADE. THE SCALES YOU WILL USE ARE DESIGNED TO REPRESENT THE DIRECTION AND INTENSITY OF THESE IMPRESSIONS. FOR EXAMPLE:

YOU MAY THINK PROFESSORS ARE "RICH", THEN MARK LIKE THIS:

RICH:_X_:___:___:___:___:___:___:POOR

OR YOU MAY THINK THAT PROFESSORS ARE "POOR", THEN MARK LIKE THIS:

RICH:___:___:___:___:___:___:_X_:POOR

OR YOU MAY THINK THAT PROFESSORS HAVE A BETTER THAN AVERAGE INCOME BUT ARE NOT "RICH", THEN MARK LIKE THIS:

RICH:___:___:_X_:___:___:___:___:POOR

PLEASE MARK EACH SCALE WITH YOUR IMPRESSIONS OF THE SPEAKER AS AN INVIVIDUAL. DO NOT CONSIDER THE SUBJECT MATTER OR DELIVERY.

PLEASE USE CARE IN READING EACH OF THE SCALES AND PLACING YOUR MARK

HOG SPEAKER

PLEASANT:___:___:___:___:___:___:___:UNPLEASANT

SLOW :___:___:___:___:___:___:___:FAST

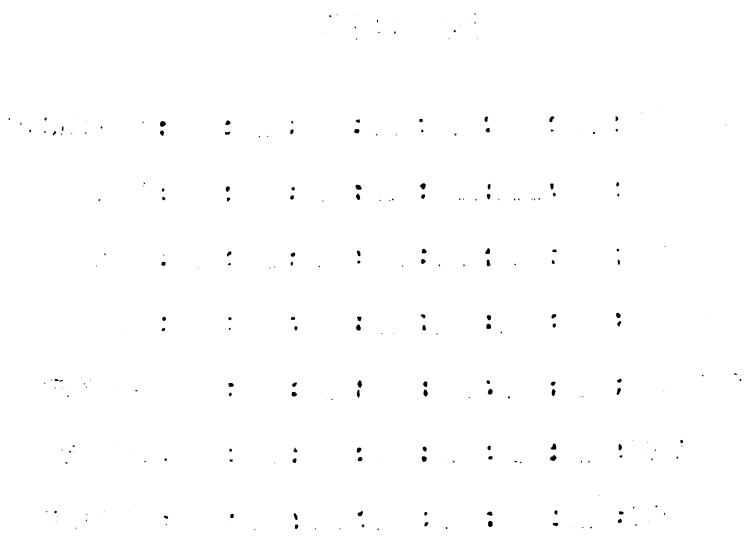
STRONG :___:___:___:___:___:___:___:WEAK

GOOD :___:___:___:___:___:___:___:BAD

ACTIVE :___:___:___:___:___:___:___:PASSIVE

DELICATE:___:___:___:___:___:___:___:RUGGED

FRIENDLY:___:___:___:___:___:___:___:UNFRIENDLY



PLEASE SIGN HERE _____

PLEASE READ THE INSTRUCTIONS

YOU ARE HELPING WITH AN EXPERIMENT. PLEASE DO YOUR BEST ON THE PAGES THAT FOLLOW.

YOUR ASSIGNMENT IS TO PLACE THE ORIGINAL WORDS IN THE BLANKS THAT ARE FOUND IN THE ARTICLE THAT FOLLOWS.

FOR EXAMPLE:

SOMEONE WILL WIN THE PRESIDENTIAL _____ THIS NOVEMBER.

IN THE BLANK YOU MIGHT WRITE ANY NUMBER OF WORDS. HOWEVER, ONLY THREE WORDS MAKE SENSE, THESE ARE CAMPAIGN, RACE, AND ELECTION. FOR THESE ONLY ELECTION IS CORRECT.

WORDS ARE NOT TO BE PLACED ON THE DOTTED LINES.

NOW TURN THE PAGE AND ATTEMT TO PLACE THE CORRECT WORD IN EACH OF THE BLANKS AS YOU THINK THE AUTHOR INTENDED.

HELLO ..... AS YOU WERE milking THIS MORNING DID PROFITS ENTER YOUR MIND ..... OR WERE YOU TOO BUSY FEEDING high-priced FEEDS? AS A DAIRYMAN, I'M SURE, YOU'RE INTERESTED IN profits . THAT OLD COW OF YOURS AT THE END OF THE STRING ..... SHE'S A MEMBER OF THE FAMILY, ISN'T SHE? BUT COULDN'T YOU TREAT HER BETTER? MAYBE IF YOU FED HER BETTER, those PROFITS YOU WERE WORRYING ABOUT WOULD increase .

JUST RECENTLY, A STUDY WAS COMPLETED AT MICHIGAN state UNIVERSITY THAT SHOWS THE AVERAGE MICHIGAN dairy FARMER CAN REDUCE HIS FEED COSTS PER ONE HUNDRED pounds OF MILK, AS MUCH AS TWENTY-FIVE PERCENT. HOW? SIMPLY BY IMPROVING forage QUALITY.

THE REALLY GOOD PART ABOUT THIS FINDING IS THAT YOU CAN DO something ABOUT IT. JUST TAKE THREE FACTORS WHICH YOU control .....FORAGE STANDS ..... CUTTING DATE .....HARVESTING AND storage . IMPROVE THESE AND IMPROVE YOUR PROFITS.

AS A group , DAIRYMEN HAVE DONE LITTLE ABOUT FORAGE quality . MOST OF THEM KNOW WHAT TO DO, BUT DON'T DO IT. THEY SHOULD TEST SOIL, LIME AND FERTILIZE WELL AND USE ADAPTED VARIETIES. FOR MANY dairy FARMERS, JUST GETTING A GOOD STAND FOR THE FIRST YEAR IS difficult BUT YOU, BEING BETTER THAN AVERAGE, HAVE TROUBLE maintaining AN EXCELLENT STAND. OUR STUDY SHOWS THAT IF YOU WILL topdress YOUR FORAGE EACH SPRING AND NOT PASTURE DURING THE month OF SEPTEMBER YOU CAN EXTEND THE LIFE OF AN EXCELLENT STAND three , FOUR, OR EVEN FIVE YEARS.

I'M SURE YOU KNOW THAT EXCELLENT FORAGE STANDS ARE ONLY THE START. YOU CAN CUT AT THE wrong TIME AND LOSE PLENTY. CUTTING BY THE CALENDAR IS A GOOD RULE OF THUMB. TRY TO CUT ALL forage, BEFORE JUNE TWENTIETH. THIS IS CONSIDERED EARLY CUT, AND always CONTAINS THE HIGHEST AMOUNT OF PROTEINS. doesn't MAKE A LOT OF DIFFERENCE IF IT'S HAY OR SILAGE, BUT CUT EARLY AND PROFIT.

THIS study HAS FOUND NO REALLY NEW HARVESTING METHOD ..... BUT, THEY DID discover SOMETHING ABOUT THIS PROBLEM OF JUNE RAINS. TO reduce THE RISK MAKING SILAGE IS A GOOD PRACTICE, THEY SAY. THOSE WHO MADE THE study SUGGEST YOU USE CARE AND TRY NOT TO HAVE YOUR SILAGE STORED WITH A MOISTURE content HIGHER THAN SIXTY-EIGHT PERCENT. IT MAKES A higher QUALITY PRODUCT.

OF COURSE, IF YOU DON'T HAVE SILAGE space, YOU HAVE TO MAKE HAY. THE BARN DRIERS WILL PRESERVE MORE PROTEIN FOR YOU IN HAY THAN ANY OTHER method. BARM DRIERS HELP YOU TO PRODUCE A PRODUCT WHICH THE weather CANNOT EQUAL.

SOME DAY, IN THE NOT TOO DISTANT FUTURE, YOU dairymen, AND OTHER FEEDERS MAY HAVE THE USE OF LABORATORIES TO TEST THE NUTRIENT value OF YOUR FEEDS. WHEN THIS HAPPENS, YOU CAN BE SURE YOUR GOOD QUALITY FORAGES ARE providing YOU ALL OF THE PROTEIN YOUR LIVESTOCK NEED.

YOU'LL BE AMAZED AT THE profit YOU CAN MAKE BY PRODUCING EXCELLENT FORAGE STANDS AND through BETTER HARVESTING AND STORAGE. MAY BE YOUR share OF THE EIGHT MILLION DOLLARS SPENT FOR protein IN MICHIGAN EACH YEAR WOULD GIVE THE SIFE A NEW HAT, PAINT THE HOUSE, AND HELP PAY THE mortgage .....

THANK YOU AND GOOD DAY.

PLEASE SIGN HERE

PLEASE READ THE INSTRUCTIONS

YOU HAVE JUST HEARD THE SPEAKER PRESENT THE ARTICLE THAT YOU READ A FEW MOMENTS AGO. WILL YOU PLEASE FILL THE CORRECT WORD IN THE CORRECT BLANK AGAIN.

HELLO ..... AS YOU WERE milking THIS MORNING DID PROFITS ENTER YOUR MIND ..... OR WERE YOU TOO BUSY FEEDING high-priced FEEDS? AS A DAIRYMAN, I'M SURE, YOU'RE INTERESTED IN profits. THAT OLD COW OF YOURS AT THE END OF THE STRING ..... SHE'S A MEMBER OF THE FAMILY, ISN'T SHE? BUT COULDN'T YOU TREAT HER BETTER? MAYBE IF YOU FED HER BETTER, those PROFITS YOU WERE WORRYING ABOUT WOULD increase.

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THE REALLY GOOD PART ABOUT THIS FINDING IS THAT YOU CAN DO something ABOUT IT. JUST TAKE THREE FACTORS WHICH YOU control .....FORAGE STANDS ..... CUTTING DATE .....HARVESTING AND storage. IMPROVE THESE AND IMPROVE YOUR PROFITS.

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YOU'LL BE AMAZED AT THE profit YOU CAN MAKE BY PRODUCING EXCELLENT FORAGE STANDS AND through BETTER HARVESTING AND STORAGE. MAY BE YOUR share OF THE EIGHT MILLION DOLLARS SPENT FOR protein IN MICHIGAN EACH YEAR WOULD GIVE THE SIFE A NEW HAT, PAINT THE HOUSE, AND HELP PAY THE mortgage.....

THANK YOU AND GOOD DAY.

INSTRUCTIONS

ON THE NEXT PAGE YOU WILL FIND A SET OF SCALES THAT LOOK LIKE THIS:

PROFESSORS

RICH:___:___:___:___:___:___:___:POOR

WE WOULD LIKE FOR YOU TO EXPRESS YOURSELF ABOUT THE IMPRESSIONS THIS SPEAKER HAS MADE. THE SCALES YOU WILL USE ARE DESIGNED TO REPRESENT THE DIRECTION AND INTENSITY OF THESE IMPRESSIONS. FOR EXAMPLE:

YOU MAY THINK PROFESSORS ARE "RICH", THEN MARK LIKE THIS:

RICH:_X_:___:___:___:___:___:___:POOR

OR YOU MAY THINK THAT PROFESSORS ARE "POOR", THEN MARK LIKE THIS:

RICH:___:___:___:___:___:___:_X_:POOR

OR YOU MAY THINK THAT PROFESSORS HAVE A BETTER THAN AVERAGE INCOME BUT ARE NOT "RICH", THEN MARK LIKE THIS:

RICH:___:___:_X_:___:___:___:___:POOR

PLEASE MARK EACH SCALE WITH YOUR IMPRESSIONS OF THE SPEAKER AS AN INVIVIDUAL. DO NOT CONSIDER THE SUBJECT MATTER OR DELIVERY.

PLEASE USE CARE IN READING EACH OF THE SCALES AND PLACING YOUR MARK

DAIRY SPEAKER

UNFRIENDLY:___:___:___:___:___:___:___:FRIENDLY

RUGGED :___:___:___:___:___:___:___:DELICATE

PASSIVE :___:___:___:___:___:___:___:ACTIVE

BAD :___:___:___:___:___:___:___:GOOD

WEAK :___:___:___:___:___:___:___:STRONG

FAST :___:___:___:___:___:___:___:SLOW

UNPLEASANT:___:___:___:___:___:___:___:PLEASANT

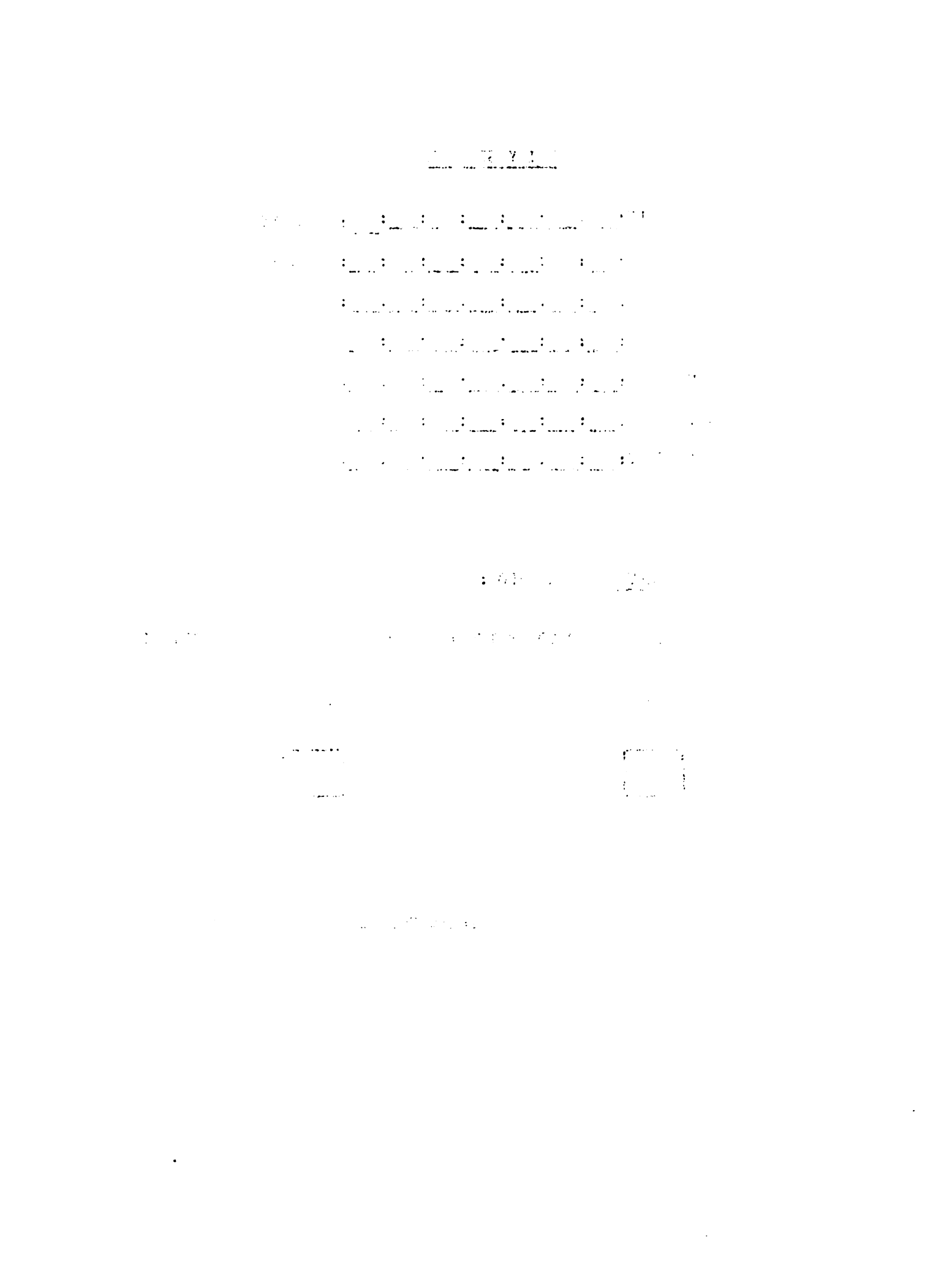
CHECK ONLY ONE BOX BELOW:

WHICH SPEAKER DO YOU THINK IS A COLD IMPERSONAL INDIVIDUAL?

HOG SPEAKER ☐

DAIRY SPEAKER ☐

THANK YOU FOR YOUR COOPERATION



APPENDIX D

TABLE I

ATTITUDES EXPRESSED BY AUDIENCES ON INDIVIDUAL STRENGTH DIMENSION SCALES

Scale	Audience A	a	B	b	C	c	D	d	
				Hog Message					
slow	3.76	2.72	4.88	4.42	3.29	4.03	4.64	4.62	fast
active	3.78	3.72	2.79	2.21	4.80	3.75	3.12	1.81	passive
				Dairy Message					
slow	4.10	4.13	3.91	3.73	4.94	4.42	3.96	2.62	fast
active	4.02	3.95	4.38	3.73	2.16	2.89	3.70	4.12	passive

TABLE II

ATTITUDES EXPRESSED BY AUDIENCES ON INDIVIDUAL ACTIVITY DIMENSION SCALES

Scale	Audience								
	A	a	B	b	C	c	D	d	
					Hog Message				
strong	4.71	3.59	3.11	3.00	4.22	3.38	3.58	2.56	weak
rugged	2.93	3.22	3.00	4.73	3.35	3.75	3.80	3.81	delicate
					Dairy Message				
strong	4.80	2.86	4.94	2.94	2.48	2.71	4.45	3.50	weak
rugged	3.57	4.22	4.14	5.26	2.89	3.78	2.61	2.18	delicate

TABLE III

DIFFERENCES IN LEARNING PRODUCED BY COMMUNICATORS t

Communicator	Hog Message 1	2	3	4	Communicator	Dairy Message 1	2	3	4
1	x	--	3.88[a]	2.02	1	x	1.70	--	--
2		x	3.93	2.28	2		x	2.06	1.75
3			x	--	3			x	--
4				x	4				x

[a]D.F. = 40; t 1.65 significant .10 level; t 2.33 significant .01 level.

TABLE IV

CORRELATION INDIVIDUAL AUDIENCE LEARNING AND EVALUATIVE ATTITUDE SCORES: HOG AND DAIRY MESSAGE

Audience	Communicator 1	2	3	4
	Hog Message			
College	A -.43	B -.26	C +.24	D -.03
High School	a +.21	b -.02	c +.10	d -.33
	Dairy Message			
College	A +.13	B -.08	C -.08	D -.01
High School	a +.32	b -.08	c +.13	d -.08

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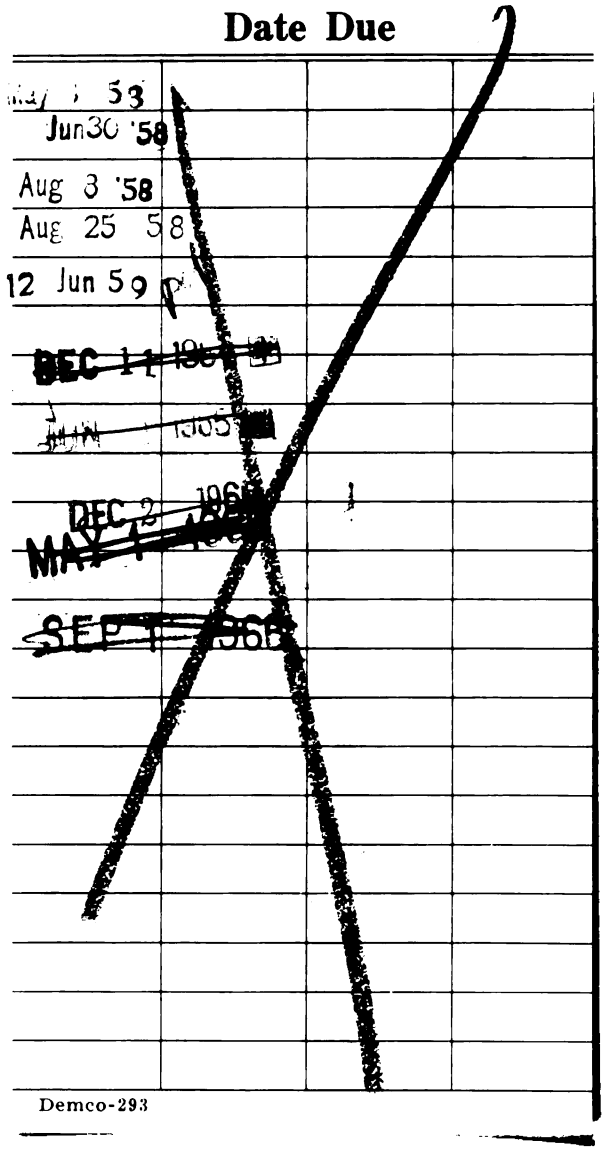
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