1966


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Louisiana State University and Agricultural & Mechanical College

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THE PERCEPTION-RETENTION OF FIRE PREVENTION MESSAGES: 
AN ASPECT OF COMMUNICATION RESEARCH

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Sociology

by

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August, 1966
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ABSTRACT

Most of the forest fires which occur in the southern region of the United States are caused by man. A significant proportion of these are deliberately set. Fire control agencies have sought for years to communicate fire prevention messages effectively to forest publics but the results have been disappointing as measured by continued high rates of incendiariism.

The purpose of this study was to collect information about these fire prevention efforts and determine the responses of various forest inhabitants to them. Specific objectives were: (1) to analyze forest residents' differential responses to fire prevention messages; (2) to obtain information residents of forest areas had about the sources of fire prevention knowledge; (3) to discover their responses to these messages; (4) to develop hypotheses for testing in future studies.

The study was conducted in two rural communities located in the woodland tracts of south Mississippi. The communities were similar in many ways but differed in one important respect—the annual incendiary rate. A team of trained field workers, making use of an interview schedule designed for the study, obtained data by interviewing a random sample of 209 adult residents from these communities.
Visual aids were utilized to determine subjects' responses to fire prevention messages.

The major hypothesis of the study was that an individual's perception-retention of fire prevention messages is a function of individual cognitive structure and group normative structures. Four research hypotheses were related to this major hypothesis: (1) areas with high incendiary rates tend to be characterized by residents with relatively low socio-economic status and unfavorable attitudes toward forestry activities; (2) fire prevention messages tend to be perceived-recalled with greater frequency and/or distorted with less frequency in areas with low incendiary rates than in areas with high rates; (3) individuals who perceive-recall fire prevention messages tend to be characterized by relatively high socio-economic status and favorable attitudes toward forestry activities; (4) residents in areas with high incendiary rates tend to have relatively lenient attitudes about enforcement of forest fire laws.

To test these hypotheses, it was first necessary to ascertain the extent to which respondents had been exposed to fire prevention messages and the sources of these messages. The sources most frequently named were: (1) television; (2) signs and posters; (3) newspapers.

The woods burning community, as hypothesized, was characterized by relatively lenient attitudes toward enforcement of fire laws. Nevertheless, the majority of respondents
in this community as well as in the community where few fires were set agreed that woods burners should be fined.

It was found also that open range grazing, lower social-class identifications, lower levels of schooling, and unfavorable evaluations of forestry activities were interrelated factors contributing to a "woods burning environment." It may be assumed that individuals from these areas tend not to perceive-recall fire prevention messages.

Perception-retention of fire prevention messages was found to be dependent upon respondents' attitudes toward forestry activities. By means of elaboration of partials technique it was determined that the relationship between perception-retention of fire prevention messages and attitudes was most pronounced among subjects with high income and high "alertness" scores.

On the basis of the study findings it is concluded that individuals tend to perceive-recall that which is congruent with their existing attitudes. This selective process screens out stimuli that might otherwise produce personality disorganization. These attitudes are derived from, and reinforced by, the normative structures of the subjects' reference groups. Thus, any mass communication program aimed at changing forest residents' behavior must work through the mediating factors of attitudes and shared group norms if it is to achieve maximum effectiveness.
CHAPTER I

INTRODUCTION

The forest fire occurrence rate in the South is over two times that for the rest of the nation. About 98 per cent of the South's forest fires are man-caused and of this number 40 per cent (1962) are attributed to incendiaryism.¹ For more than 30 years those responsible for forest protection have developed programs of information, education, and law enforcement in an effort to reduce fire damage to the forest. Results thus far have been disappointing. Apparently there is need of more effective measures for presenting the fire prevention message to the forest residents.

I. IDENTIFICATION OF THE PROBLEM

Fire control agencies have made rather intensive use of the mass media in an effort to get forest residents to adopt specific attitudes and behavior patterns. A notable example is the use of materials prepared by the Advertising

The efforts which fire control agencies have made, based on the assumption that man-caused forest fires can be reduced through effective communication with various forest publics, constitutes the content area of this investigation.

There are indications that the mass-education program has been relatively successful in certain geographic areas and with certain categories of persons who are potential woods burners. However, there has not yet been a rigorous analysis of these results. Furthermore, in some areas existing programs have failed to produce satisfactory results. The rate of man-caused forest fires in these "hot spots" has remained persistently high.

II. JUSTIFICATION OF THE RESEARCH

The facts cited above clearly indicate that research is needed whereby the value and results of previous and existing programs will be scientifically assessed. The aim of research should be that of evaluating strengths and

2 The Advertising Council, a national organization founded in 1942, conducts public service advertising and public relations programs. Advertisers and advertising media are encouraged by the Advertising Council to contribute time and space; advertising agencies to supply creative talent and facilities to further timely national causes.

3 The Pacific Southwest Forest and Range Experiment Station is presently engaged in obtaining and publishing information concerning the effectiveness of past and existing prevention efforts on fire-consciousness of certain mass user groups, and concerning the impact of signs on the mental reactions of experimental subjects. (See Chapter II, Review of the Literature.) The program has not yet been concluded.
weaknesses of these problems, locating gaps in impact, and determining media uses that could be employed in developing a more effective and comprehensive fire prevention program.

At present, it is not known to what extent the fire prevention message is perceived, whether it is understood, how it is interpreted, or what reaction it produces. There is need for a thorough appraisal of the present status of the communication that exists between fire control agencies and specific forest publics.

It is important that existing fire prevention programs be evaluated before new approaches or techniques are innovated. If, for example, it is determined that the use of radio is no longer a practical means of influencing the attitudes of certain categories of woods burners, efforts making use of radio in specific areas could be discontinued. Time and money could then be expended in a more judicious manner. If signs and posters are found to be effective, information about the interests and educational levels of the target audience should be helpful in preparing new materials that are arresting and forceful. In short, this investigation should provide the change agent with more reliable and accurate information about his audience so that he can more intelligently plan his program.
III. OBJECTIVES AND SCOPE

In making a start toward a better understanding of the kind and quality of present fire prevention messages and their recognition, interpretation, and effect, four specific objectives are stated. They are as follows:

1. To analyze the differential responses to fire prevention messages that occur in terms of communication theory as to their possible significance. (Objectives 2 and 3 are related to this objective.)

2. To obtain information relative to the number of sources of messages (TV, radio, newspaper, and personal influence) and symbols⁴ (Smokey the Bear) employed by fire control agencies which are seen and heard by persons living in two south Mississippi rural communities.

3. To discover (a) the residents' knowledge of the

⁴A distinction is often made between a sign and a symbol. For example, Leslie A. White in The Science of Culture (New York: Grove Press, 1949), pp. 26, 27, states: "The distinction must be made when one bestows value upon a sound-combination or when a previously bestowed value is discovered for the first time. . . . But after value has been bestowed upon, or discovered in, a word, its meaning becomes identified, in use, with its physical form. The word then functions as a sign, rather than as a symbol. We define a sign as a physical thing or event whose function is to indicate some other thing or event." The word sign, however is commonly used in other ways (e.g., traffic signs and billboards). To avoid confusing the reader, Smokey the Bear, Elsie the Cow, etc., are arbitrarily referred to in this study as symbols.
content of these messages; (b) their agreement or disagreement with them; and (c) their emotional reaction to them.

4. To develop substantive and methodological leads for use in subsequent studies.

The study is limited to formal messages that are used to inform, influence, educate, and motivate (as opposed to informal contact, law enforcement, economic incentive, etc.). Informal interpersonal communication processes and other sources of influence are analyzed only insofar as they have a significant bearing upon the sending and the receiving of formal messages.

IV. THE CONCEPTUAL MODEL USED FOR THIS INVESTIGATION

Whitehead once said that the idea of an organized whole, or system, existing in an environment is "a fundamental concept essential to scientific theory." Such a scheme of analysis which breaks down phenomena into organized systems and environments has been utilized again and again and examples of this approach may be found in disciplines as far apart as physics and biology. Sociologists, along with scientists in other disciplines, take this same fundamental approach to knowledge. In fact, the "social system" is probably the most commonly accepted model of social organization.

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used by sociologists today. By means of this model human
groups are visualized as systems whose parts are interdepen­
dent and which as unities are in turn interlinked with one
another through mutual dependencies.

This approach is basic in the tradition of the
"Structural-functional" school of sociology. As might be
anticipated, however, even sociologists who are considered
to be within the same school tend to give this key concept
slightly different shades of meaning. George C. Homans, for
instance, defines the social system as the "activities, inter­
actions, and sentiments of the individuals together with
the mutual relations of these elements with one another."^6

Others specify that the prerequisites for a social
system are two or more people in interaction directed
toward attainment of a common goal and oriented through
shared values, symbols, and expectations. The important
distinction between a group and a system, it is pointed out,
is that the members of a group cannot be changed without
changing the group, whereas the system remains the same
whether the group of people acting in it change or not.7

Sociologists such as Talcott Parsons and Charles P.
Loomis have made extensive contributions to social system


^7Alvin L. Bertrand, Basic Sociology (New York: Appleton Century, in publication (1966)).
analysis. The latter's work, because of its utility in empirical research, has seemed most applicable to the present study.

Loomis views the social system as a complex web of social interaction which has become patterned and ordered. These patterned social relations display in their uniformities social elements which are articulated by social processes. The processes, in turn account for the emergence, maintenance, and change of the social systems. The structure of the system is composed of identifiable and interdependent parts; its functions are achieved when parts of the social system make contributions to the ongoing of the system.

At any given time, the structure of a given social system may be described and analyzed in terms of the following elements: (1) belief (knowledge); (2) sentiment; (3) end, goal, or objective; (4) norm; (5) status-role (position), (6) rank; (7) power; (8) sanction; (9) facility. The dynamics of the system are accounted for by the processes which "mesh, stabilize, and alter the relations between the elements through time." Loomis divides the processes into two categories: (1) elemental processes which articulate individual elements; (2) master processes which articulate two or more of the individual elements.

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9 Ibid., p. 6.
Social system analysis has been criticized by some on the grounds that conflict, deviation, and change have tended to be ignored. Alvin L. Bertrand, in an effort to correct this deficiency in earlier approaches, conceived of the stress strain element. By this approach social systems are seen as being made up of elements, one of which is stress-strain. "The system cannot be complete without this element because all systems have contradictory needs which arise from role conflict within the system." The elements and processes of the Loomis model with the stress-strain element and the social change master process are listed in the accompanying chart.

The social system model has utility for the present study in the following ways: By means of the model, the personnel of the fire control agencies are conceived of as a system in a power position in interaction with the members of another system (the indigenous forest population). The members of the first system are attempting to impose various norms upon the latter system; thus, the members of one system are confronted by members of another who are attempting, through the process of communication, to achieve accommodation. The personnel of the fire control agencies feel that more effective communication might hasten change.

11Ibid., p. 8.
LOOMIS' P.A.S.' MODEL WITH STRESS-STRAIN ELEMENT AND SOCIAL CHANGE MASTER PROCESS ADDED

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COMPREHENSIVE OR MASTER PROCESSES

| 1. COMMUNICATION | 4. INSTITUTIONALIZATION |
| 2. BOUNDARY MAINTENANCE | 5. SOCIALIZATION |
| 3. SYSTEMIC LINKAGE | 6. SOCIAL CONTROL |
| 7. SOCIAL CHANGE |

CONDITIONS OF SOCIAL ACTION

1. TERRITORIALITY 2. SIZE 3. TIME

PRIOSESSUALLY ARTICULATED STRUCTURAL MODEL OF SOCIAL SYSTEMS

[ ] INDICATES ELEMENTS AND PROCESSES ADDED
The important element of the conceptual model in this study is that of the process of communication. "Communication" basically implies the sending and receiving of messages. The process, however, is complicated by the fact that the message which the sender transmits immediately becomes a part of a complicated set of interpersonal relations which are, in turn, influenced by the shared values of primary groups such as the family, cliques, and work groups and the networks of communication which are their structures. The message, once sent, is perceived in terms of the personal predispositions and attitudes of the target individual. Decisions by group influentials to accept or resist new ideas are also involved. All these are interpersonal processes which intervene between the mass media message and the individual who is the ultimate target.

The individual recipient is attached to primary groups which are, in turn, systematically related to larger structures by diverse patterns of ties. The processes which occur among and between individuals within primary groups contribute to the functioning of the more inclusive process; and conversely, the individual's actions tend to be channeled by his significant reference groups and by the alignments of these reference groups within the larger structure. Thus, it appears that mass-communicated messages reach recipients whose group members and group references themselves have determinate interrelationships. It is clear that pressures are brought to bear upon the recipient of the message from
the environing social structure.

Any model of mass communication which takes a sociological view only of the receipt of the communication and ignores the social structure surrounding the recipient is bound to be inadequate. In fact, the communication process clearly has ramifications beyond the individual recipient and the social structure of which he is a part. The process includes the communicator as well as the recipient and the social structure of which he is a part.

Sending and receiving of messages are both forms of motivated (goal oriented) behavior, therefore, communicators are interested in how successfully they are moving toward their goals. Motive satisfaction through communication depends to a considerable extent upon accurate exchanges of information. The information that one gets by noting the effects of one's own behavior is known as feedback. The communicator's success must be judged not merely by whether recipients make overt responses in expected ways, but also in terms of their dispositional properties which, in the long run, determine overt responses as these may have been elicited or inferred through the exchange of messages. The audience responds in an expected manner, if a communication is at all successful and the audience's response affects future communication.

The fact that this investigation has been undertaken is in fact an underscoring of the importance of feedback in the communication process. This study is, in part, an attempt
to provide the communicators of fire prevention messages with accurate information as to the nature of the audience, the effect of, and the response to the messages they have been sending.

On the basis of the foregoing discussion, one may see the position of both the mass communicator and the recipient in their respective social groupings. Several aspects of the relationship are apparent when examined in the light of emerging scientific investigation: (1) The communicator and recipient are seen as interdependent. (2) The relationship does not usually consist of a single communication which elicits only a single reply, but any given communication (message) is rather one link in a chain of communications which extends over time. (3) This chain or interaction is by no means limited to a simple relationship between the communicator and the recipient exclusively. Much of the communicator-recipient relationship is indirect and is mediated through the other members and groups to which the communicator and recipient belong. (4) Both the communicator and recipient have definite positions in the social structure. Their respective roles in the process tend to be affected by the social context and their positions are related to one another within the social system. (5) The communications which flow from one individual or one group to another no longer appear as random or unrelated acts but as elements in a total pattern of ongoing interaction. Information or influence thus flows from one person and group to another by
successive steps; the original recipients of a message tell others who in turn tell others, and so on.

Arthur Jones has exhaustively treated one aspect of the conceptual model involved in this investigation, namely, an analysis of the woods burning problem in terms of social action theory. In his research two distinct social systems were identified; first, the indigenous rural population which resided within the physical boundaries of the research area; second, the fire control agencies, the primary objectives of which are the application of scientifically derived procedures of reforestation, forest management, protection, and conservation. The analytical procedure followed involved conceptualizing the fire control agencies and the rural forest population as two subsystems or units of a larger system of action. It was therefore possible to study the differential goals of each subsystem, the patterns of meaning underlying the goals, and the processes of social control inherent in the power of one subsystem over the other. The present study assumes the utility of such an analytical approach and proceeds to an analysis of the communication patterns with which the members of the two subsystems are related.


13 Ibid., pp. 46, 47.
V. A REVIEW AND EXAMINATION OF CONCEPTS RELEVANT TO THE STUDY

The sociologist faces a difficulty when he develops a conceptual model; it has been brought about by imprecise and inconsistent usage of key concepts. The problem is perplexing—sometimes baffling. In an effort to cope with this difficulty, there have been attempts within the discipline to formulate theory in terms of mathematical symbols, but these attempts have been only halting-first steps. This hope, envisioned in dim outline over a century ago by Comte, has not yet been completely realized; it is still a prophecy of the future. Some take encouragement from Herbert Simon's belief in the promise which mathematics holds for mastering the complexity of social phenomena:

Mathematics has become the dominant language of the natural sciences, not because it is quantitative—a common delusion—but primarily because it permits clear and rigorous reasoning about phenomena too complex to be handled in words. This advantage of mathematics over cruder languages should prove of even greater significance in the social sciences, which deal with phenomena of the greater complexity, that it has in the natural sciences.14

Nevertheless, theory building and research at this stage in sociology's development is characteristically forced back to the use of concepts often lacking in precision. The concepts, often as not, are used by layman and sociologists

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alike. They are sometimes invested with novel meanings, when used by the sociologists, and frequently vary in meaning from sociologist to sociologist. Clearly, the same coin is not always acceptable in all parts of the realm, but there is growing consensus with regard to key concepts.

It would seem, at first glance, that this problem would eliminate the possibility of any careful research. Such, however, has not been the case. The problem, though imposing, has not proved to be insurmountable as several decades of respectable research bears witness.

Several approaches may be utilized in surmounting the handicap of imprecision and inconsistency. One may (1) operationalize the concepts in terms of the particular study at hand; or (2) follow the usage which appears to be current in the literature. Where there is disagreement in the literature, it is necessary either to (a) make a selection from the various definitions, or (b) synthesize a composite definition from the key elements in various definitions encountered in the literature. When there is such a confusion with respect to relevant concepts for this study, the fact is indicated and the basis for choice of a definition noted. With this understanding in mind, the following definitions are suggested.

**Communication**

Several adequate definitions are now at hand: "Communication is the process through which a set of meanings
embodied in a message is conveyed to a person or persons in such a way that the meanings received are equivalent to those which the initiator of the message intended.\textsuperscript{15} Another definition: Communication may be defined as "the transmission of meanings through the use of symbols. When men interact by means of symbols they are engaged in communication."\textsuperscript{16}

The sociologist, Charles P. Loomis, considers communication a "master process" and defines it as, "the process by which information, decisions, and directives are transmitted among actors and the ways in which knowledge, opinions, and attitudes are formed or modified by interaction."\textsuperscript{17}

The ways in which the traditional approach to communication were altered as the research traditions developed is discussed in Chapter II. This development naturally has contributed to a refinement of the basic definition. Most definitions now widely used tend to include five fundamental factors, even though the definitions vary according to the theoretical frame of reference employed by a particular writer. These five factors are: (a) an initiator; (b) a


recipient; (c) a mode or vehicle; (d) a message; and (e) an effect. Many of the definitions include the idea of interaction in which the initiator is simultaneously or successively an initiator.

Perception

An individual in the course of normal experience becomes aware of hundreds of objects which are distinct from himself. He sees trees, houses, people, airplanes, and pencils; he reads the newspaper, watches the television, and listens to the stereo; he hears people talking and engages in conversation with some of them, he handles numerous objects—pens, clothes, and books. The process of becoming aware of and responding to them is called perception. This awareness is achieved through the senses with which the individual is endowed. The sensory equipment alone, however, does not explain the process of perceiving. The sense organs are merely the physical apparatus which receive impressions of the objects as they are encountered.

Basically, perception refers to relations between output and input, both of which are potentially observable. The task of the social scientist, who is seeking to understand the actors involved in perception, is that of making inferences about relationships. This task is essentially no different from that facing the person who tries to learn rules of football by watching the game as it is being played.

When an object such as a pencil, tree, or apple is
encountered, the person reacts to it as a unit and not to
the particular items or related individual stimuli that are
involved. The perception "pencil" becomes in each instance
a total experience. It is possible, for example in the case
of the apple, to distinguish certain particular items in the
perception such as the shape, color, odor, etc. Even more
than this is involved, however, for in perception one reacts
to "patterns" or "configurations." These patterns or con-
figurations are totalities of individual items. Whenever a
chord is struck on the piano, it is heard as a chord and not
as the individual tones that compose it. Though the tones
compose the chord, the reaction is to the whole pattern not
to the particular items in it. To use another example,
writing is reacted to not as so many black marks on a piece
of paper but as sentences composed of words.

Tests of perception involve the observation of some
aspects of behavior. Tests of perceptual theory in isola-
tion are rarely possible since such behavior is likely to be
influenced by variables other than perceptual ones.

A clearer understanding of the nature of perception
is facilitated by a review of Allport's six propositions.\textsuperscript{18}
They are as follows: (1) that bodily need determines, within
limits, what a subject will perceive; (2) that reward and
punishment are also factors in determining what a subject

will perceive, and that they greatly influence thresholds at which items will be recognized; (3) that values represented in the personality of the perceiver tend to determine thresholds of recognition; (4) that the size perceptions evoked by stimuli are in line with the social value connotations involved; (5) that the personality features of the perceiver predispose him to perceive in a manner consistent with such features; and (6) that overt recognition reactions to personally disturbing stimuli have a longer latency than do reactions to mutual material, that this material tends to be misperceived in radical ways, and that such material evokes autonomic reactions of thresholds below overt recognition thresholds.

Definitions of perception vary from text to text. In Borring, Langfeld, and Weld's *Foundations of Psychology* it is stated that, "Perception is the first event in a chain which leads from the stimulus to action. It is the experience of objects and events that are here, now."¹⁹

In summary, perception has been a central concept in social science since the days of Decartes. Moreover, the central theoretical issue concerning the concept has remained basically the same since that time; viz., the relationship between the mind and the objective world in the generation

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of sensation and idea and their manner of intertwining. It
denotes the changed relationship between the organism and
the external world of objects which is brought about by the
assignment of meanings to the previously raw sensory experi­
ences. Perception occupies an intermediate position between
simple (sensations) and complex (concepts) behavior.

Some writers stress the subjective aspects of percep­tion, whereas others argue that perception is more than
sensation to stimuli (such as patterns of light waves), but
is the process by which we register what is meaningful.
According to this view, sensory experiences become percep­tions when they are interpreted according to our concepts of
the external world.20

Cognition and Cognitive Structure

Cognition is the term used to indicate all the various
aspects of knowing, including perception, judgment, reasoning
and remembering, thinking and imagining. It has come down to
us from the writings of Plato and Aristotle and was revised
in the 18th century by Kant.

Cognitive structure may be defined as the content and
relationships among the parts of a person's mental world,
built up from previous experiences, attitudes, values, and

20An excellent summary of the various definitions is
provided in Julius Gould and William Kolb, eds., A Dictionary
pp. 491, 492.
all the things that impinge on the individual existence. This concept is useful in explaining the behavior characteristics of predisposition or selected exposure.

A basic hypothesis in the present study is that a person's behavior is a function of his cognitive structure. He selects from the stimuli which are available to him; if a stimulus or a message is not consistent with his cognitive structure, it may be rejected, or distorted, or it may actually serve to produce the desired changes. The actual outcome, in any instance, is dependent upon the relative strength of the forces maintaining the cognitive structure and those of the stimulus or message.

**Threshold**

The word *subliminal* is synonymous with the phrase "below threshold." It is a fact that a stimulus which is below threshold is one containing insufficient information for a particular perceptual task to be successfully accomplished. By contrast, and above threshold stimulus does contain the necessary amount of information.

Obviously, there must be some particular amount of information characterizing the point separating types of threshold stimulation. It is this point of transition which is called the *threshold*. Generally, a threshold is defined as the minimal amount of information required for the accomplishment of a perceptual task.21

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Predisposition

Usage of this concept in the social sciences appears to be fairly consistent with common usage as defined in Webster's International Dictionary. It is an act of predisposing or of inclination; or, of a favorable susceptibility or bias. It is a tendency to or a propensity for a certain kind of behavior. It may also imply a previous fitness or adaptation.

Attitude

The notion of attitude has been useful because it provides a conceptual bridge between the psychological state of the individual and the objects of orientation in that individual's world. A definition of attitude, if it is to be adequate, must come to grips with the facts of the intra-individual psychological organizations (which include the individual's taxonomy of objects) and also with the facts of persistence and change.

An attitude is a hypothetical variable rather than an immediate observable variable. The concept of attitude does not refer to any one particular act or response of an individual, but it is an abstraction from a large number of related acts or responses. For example, when it is stated that an individual has a less favorable attitude toward labor organizations than another individual, we mean that the first actor's many different statements and actions are consistently less favorable to labor than are the second actor's comparable words and deeds. Thus the comprehensive concept
"attitude" is consistently used whenever applied in reference to the many related responses.

An attitude is sometime viewed as mediating between the stimuli and responses. Krech and Krutchfield define attitude as, "an enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world."22

The content of an attitude is determined by the responses that constitute it. The set of behaviors comprising an attitude is referred to as an attitude universe. (Louis Guttman developed the idea of a universe in connection with his scaling methods.) Attitude measurement, therefore, involves sampling a behavior universe and measuring the universe by means of the sample. The concepts of attitude universe and sub-universe, though certainly not very precise, are helpful to the researcher in formulating the measurement problem.

G. W. Allport, after reviewing earlier definitions, concluded that "An attitude is a mental and neural state of readiness exerting a directive influence upon the individual's response to all objects and situations with which it is related.23


The Selective Processes

Previous studies have shown that existing opinions and interests of people (or, more specifically, their cognitive structure) profoundly influence their behavior with regard to communication and the effects which messages are likely to have upon them. Generally, people tend to expose themselves to those mass communications which are in accord with their existing attitudes and interests. Consciously or unconsciously they avoid communications with which they differ. Should they be exposed to material with which they are unsympathetic, they often seem not to perceive it, or to recast and interpret it to fit their predispositions. The processes involved in these ego-protective exercises have become known as the selective processes (selective exposure, selective perception, selective retention, and selective decision).

Selective exposure.—Selective exposure refers to the tendency of individuals to expose themselves to communication which are in accord with their existing opinions and interests, and their corresponding avoidance of communications that might be irritating, or uninteresting, or incompatible with their own opinions.

Selective perception.—One of the basic conditions which must be met before an audience is influenced is that the members of the audience must interpret or perceive correctly the kind of action or attitude desired of them by
the communicator. Selective perception refers to the observed behavior of individuals who are accidently or involuntarily exposed to a message and the misinterpretation and distortion which sometimes follows.

Perception, as already noted, refers to the ways in which organisms respond to the stimuli picked up by their sense organs. Stimuli become cues, however, only when they are responded to or when attention is paid to them. One part of the socialization process is that the individual learns to select and interpret the stimuli relevant to his actions and interests and to ignore others or take them for granted.

It is fallacious to conceive a perception as a single passive act, as if an organism looks out upon an environment and receives impressions of its entirety through the sense organs. This "copy perception," has been attacked by Dewey and others who stressed that perceiving is a part of a larger organization of activity. Selective perception, then, refers to the fact that motivation, needs, and interests, sensitize individuals to specific stimuli and occasionally lead to distorted perception; stimuli are often misinterpreted and perception of the same situation varies from individual to individual.

Selective retention.—The line of demarcation between selective perception and selective retention is a very fine one so that, in some instances, it is virtually impossible to distinguish between the two. When, for example, a person who has been exposed to a message a few minutes before presents a distorted or incomplete report of its content, it is difficult to determine whether the content was selectively perceived in the first place, whether it was correctly perceived and not retained, or whether the two processes complemented one another. Basically, however, selective retention refers to the process whereby a person learns more quickly and remembers for a longer period communications (messages) which are compatible with his own attitudes and predispositions.

The phenomenon described in this study whereby certain messages are recalled by individuals will be arbitrarily referred to as "perception-retention" or "perception-recall" because of the difficulty in distinguishing between perception and retention.

Selective decision.—A person who has been exposed to a message, who has correctly perceived its intent, and has remembered and main content, still must decide whether or not to be influenced in the manner intended by the communicator. Because of individual predispositions, different people make different decisions as to whether or not (and to what extent) they will be influenced. This process is
referred to as selective decision.

Accommodation

The process of accommodation has to do with the conscious efforts of men to develop such working arrangements among themselves as will suspend conflict and will make their relations more tolerable and less wasteful of energy. It is a means of resolving conflict without complete destruction or absorption of the other party—that is, without either party entirely losing its identity. The effects of accommodation vary according to the circumstances. Accommodation may serve to reduce the conflict between persons or groups or it may be an initial step to a synthesis of differences thus leading into a new pattern.

Accommodative arrangements between groups or individuals take a variety of forms including coercion (social relationships are determined by constraint, compulsion, or force); compromise (a conscious method of settling a conflict in which all parties agree to renounce or reduce some of their demands in the interest of peace); arbitration (disputes are settled by a third party); and other related devices such as mediation and conciliation.25

Diffusion

The process by which an item of culture spreads

geographically from its source of invention is known as diffusion.

**Locality Groups**

These are composed of people in a specific geographic area who have a feeling of togetherness and tend to associate with each other more than with outsiders. Two such groupings have been recognized by sociologists—neighborhoods and communities. Though complete agreement has not been reached in use of the terms, neighborhoods are usually thought of as composed of a few families who have mutual concern for each other and claim the same locality as their place of residence. The community, on the other hand, tends to be self-sufficient in terms of possessing those institutions necessary for its continuing existence, and is larger and more complex than the neighborhood.

Agreement among sociologists, as already pointed out, has by no means been complete. In fact, the only qualities of the community upon which a substantial number of sociologists have been able to agree are: (a) that it consists of people; (b) in a specified area; (c) who interact, and; (d) have a common tie or ties. Others have not hesitated to point out that these qualities do not define a community as

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a unique phenomena for, indeed, nearly all social groups possess the characteristics cited above. Ford and Sutton point out that when researchers add other qualities, conditions, or attributes to the definitions and exclude certain territorial groups commonly considered communities, the confusion is further compounded.27

Sociologists such as Frederick L. Bates have attempted to refine the concept so as to avoid certain fallacies and emphasize the fact that communities, as social systems, persist through time transcending the lives of the individuals who make them up. A community is thus defined as "a social system whose function is managing the conflicting competition which arises out of the necessity to exchange the functions, goods, or services which arise out of the division of labor in society. These communities are social systems within which individuals, groups, and organizations satisfy various needs through relating to other individuals, groups, and organizations."28

Communication research, unfortunately, has not substantially benefited from these recent analytical developments. Usually whenever the community or the neighborhood has been specified as a relevant variable in such research,

27 Ibid.

the concept has usually had traditional connotations such as geographical boundaries. Consequently, the present study follows more conventional usage so as to make best use of available research findings.

Operational definitions arrived at implied both geographical boundary and subjective member identification. Respondents were asked, "What is the name of this community?" If they responded "Carnes," they were classified as belonging to the Carnes community; if the response was "Brooklyn," they were classified as belonging to the Brooklyn community. If narrower or more specific geographical locations were indicated, these were arbitrarily considered to be an identification of a particular neighborhood. Responses such as "Old Sand Hill" were considered neighborhood identifications.

Neighborhoods and communities, as functioning social systems, tend to have distinctive norms associated with them. Various forms of social control are employed to keep members in line with local expectations. Paramount values (the values most esteemed) in locality groups vary from one area to another.

Family

This writer follows customary usage in defining the family. A family is a "socially sanctioned grouping of persons united by kinship, marriage or adoption ties, who generally share a common habitat and interact according to
Family members often serve as referents and discussants in decisions regarding new ideas and techniques. School children are often mentioned by parents as sources of information. Rural sociologists have found that the family values which have been found to have a high positive association with acceptance of innovations are: (1) desire for high educational attainment of children and assignment of priority to this over expenditures for farming operations; (2) high value placed upon social status and participation in formal groups; (3) high priority on the possession of improvements and convenience in the home as a family goal.

Clique

A clique is a small, often narrowly exclusive group of persons associated by common interests. The basis for its existence lies, not necessarily in kinship, but in the need individuals feel for intimate association with other persons. The significance of this social phenomenon has been reported in research such as The People's Choice, a report of voting behavior in a presidential election, and the Hawthorne studies (see Chapter II). Since rural people of today,


30E. A. Wilkening, Adoption of Improved Farm Practices as Related to Family Factors, Wisconsin Agricultural Experiment Station Research Bulletin 183 (Madison, Wisconsin, December, 1953).
because of improvements in transportation, are no longer limited to neighborhood contacts, cliques serve something of a substitute function in meeting needs once met by immediate locality groups.

Cliqués are most important in shaping attitudes, orienting social relationships, and in defining situations. Individuals seem often to have particular groups in mind when they report their own opinions. New persons recruited into a clique tend to adopt the thinking patterns of that clique.

Rural sociologists have found the clique to be a significant social structure in the diffusion of farm information because it involves various mechanisms of social control. Group members may be subjected to ridicule and expulsion for association with "improper" persons or for adopting practices disapproved by the clique.

Reference Groups

People evaluate themselves and orient their behavior, not only to the groups in which they hold official membership, but also to others to which they aspire or to which they hope to belong in the future. A reference group is therefore a group with which a person psychologically identi-

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fies himself or in relation to which he thinks of himself. The individual may, or may not, be a member of the group with which he identifies.

There are positive as well as negative reference groups. The former refers to groups in which a person desires acceptance; and the latter, those to which one is negatively oriented and in which he does not desire membership.

VI. HYPOTHESES

The major hypothesis devised for this study is as follows: an individual's perception-recall of fire prevention messages is a function of cognitive structure (attitudes, predispositions, etc.) which is, in turn, influenced by the shared norms of groups with which the individual is associated. From this major hypothesis four research hypotheses were derived. They are as follows:

The first research hypothesis was that areas with high incendiary fire rates tend to be characterized by residents with low socio-economic status and unfavorable attitudes toward forestry activities.

The second research hypothesis was that fire prevention messages tend to be perceived-recalled with greater frequency and/or distorted with less frequency in areas with low incendiary fire rates than in areas with high rates. ("Distort" is used to designate the process whereby an individual interprets messages in such a way that they are compatible
with his predispositions and attitudes.)

The third research hypothesis was that individuals who perceive-recall fire prevention messages tend to be characterized by high socio-economic status and favorable attitudes toward forestry activities.

Three sub-hypotheses were suggested. First, it was hypothesized that individuals with very strong anti-forestry attitudes tend to perceive fire prevention messages but also tend to negatively distort fire prevention messages to a greater extent than those individuals without strong anti-forestry attitudes.

Second, it was hypothesized that persons with strong anti-forestry attitudes and persons with strong pro-forestry attitudes tend to perceive-recall fire prevention messages whereas those in the middle range (approximating neutrality) tend not to perceive fire prevention messages.

Third, it was hypothesized that respondents' general "alertness" to the mass media is related to the variation in perception-recall of fire prevention messages.

The fourth research hypothesis was that residents in areas with high incendiary fire rates tend to have more lenient attitudes toward enforcement of fire laws than those in areas with low incendiary fire rates.
VII. SUMMARY

Within this chapter an attempt has been made to indicate the direction of the study. Thus, the problem has been identified as an investigation of the efforts by fire control agencies to reduce man-caused forest fires through communication with the various forest publics. Such an investigation is needed in order to scientifically assess the value and results of these programs as well as determine ways and means of developing a more effective fire prevention program.

The objectives of the study are: (1) to analyze differential responses (to fire prevention messages) that occur in terms of communication theory as to their possible significance; (2) to obtain information about the content and sources of fire prevention messages; (3) to discover residents' responses to fire prevention messages; (4) to develop leads for future studies.

The "social system" model has been used in order to bring together in a meaningful way the concepts deemed relevant to the problem. These concepts have been defined and, in terms of which, four research hypotheses have been stated. They are as follows: (1) that areas of high incendiary fire rates tend to be characterized by residents with low socio-economic status and unfavorable attitudes toward forestry activities; (2) that fire prevention messages tend to be perceived-recalled with greater frequency and/or distorted with less frequency in the area of low incendiary
fire rates than in the area of high rates; (3) that individuals who perceived-recalled fire prevention messages tend to be characterized by high socio-economic status and favorable attitudes toward forestry activities; (4) that residents in areas of high incendiary fire rates tend to have more lenient attitudes toward enforcement of fire laws than those in areas of low rates.

In the following chapter it will be seen how previous studies set the stage for this investigation. Specific references in the literature to the ways in which individuals selectively perceive, retain, and recall certain symbols and messages are noted. Furthermore, a negative finding in a California sign study which suggested a relationship between cognitive structure and perception is reviewed.
CHAPTER II

REVIEW OF THE LITERATURE

This chapter consists of a review of literature which has implications for the present investigation. A simple chronological listing of the relevant contributions was not thought to be adequate for the purposes at hand; instead, it was felt that the findings should be presented against the background of historical developments within the broad area of communication research with elaboration at those points which seemed to be most significant.

I. INTRODUCTION

Man alone, of all living organisms, is able to interact with his fellows by means of learned arbitrary symbols. This ability qualitatively separates him from other creatures since it provides the basis for culture. Concern with communication has stimulated a striking variety of research. Studies range from psycholinguistics, an approach recently borrowed from communication engineers, to semiotics, an entire discipline complete with three specialized branches—semantics, syntactics, and pragmatics. Semantics involves the study of relationships between signs and their referents; syntactics, the relations of signs to other signs; pragmatics,
the "ability" of signs to convey desired information.

Recent attempts to systematically and scientifically treat the phenomenon of human communication have opened up new frontiers of this vast, complicated—but at the same time—interesting and crucially important field of inquiry. It has, in fact, become increasingly important during the past decade. Its increasing importance is seen in the perspective of the emerging mass society with industrialization, mass production, mass marketing, and mass communication as interrelated variables. The present undertaking falls within the domain of general communication research.

II. RECENT DEVELOPMENTS IN COMMUNICATION RESEARCH

Only within the last decade has interchange between the various research traditions concerned with specific facets of communication research been very intense. This interdisciplinary approach has resulted from an important theoretical development in the behavioral sciences—the revision of the image of society.

It is necessary to review some of the first steps taken in communication research if we are to understand this recent development and its importance. Traditionally, research on mass communication focused on the movement of a message from the communicator (sender) to the recipient (target individual) and on the recipient's response to this message as a stimulus. Harold D. Lasswell's formulation of the main elements involved in communication provided the
frame of reference for this type study: "Who says what in which channel to whom with what effect?"¹

This view of communication tended to give the impression that a communicator, concerned only with sending a message, transmitted to a recipient who, alone in an ivory tower, came to a rational decision about how to act concerning the message. The deficiency of this traditional approach was that it failed to take into account on-going processes of social interaction of which the single communicating act is merely one component.

Rediscovery of the Primary Group

Several dramatic findings contributed to a theoretical development which has been called the "rediscovery of the primary group." It is now an accepted term and refers to the belated recognition that researchers give to the importance of informal, interpersonal relations within situations formerly considered to be formal and atomistic. It was a rediscovery in the sense that though earlier theorists had explicitly dealt with the primary group, it was generally overlooked by subsequent researchers. An examination of the developments described below reveals how the researchers were forced, as a result of empirical findings, to amend their thinking of the fields they were studying in order to allow

for intervening role of primary group relations.

The best known instance of the "rediscovery" comes from industrial sociology—the Hawthorne studies. This famous research began as an attempt to see what effect certain changes in working conditions had upon production rates and ended with the conclusion that informal groups within the factory influenced production rates irrespective of certain variations in light, color, etc.² It was found that regardless of how conditions were varied, whether they were made better or worse, the productivity of the specially selected test group increased. The researchers, who at first were puzzled over the results, gradually concluded that the response of the workers was not related to the experimental variables at all but to some other factor. They found that the test group enjoyed being studied and that whenever experimental variables were introduced, the group would express collective high spirits and involvements in the experimental task by increasing their production. Furthermore, they were led to the conclusion that informal groups arose naturally within the larger factory itself, each group having its own norms. These norms had a direct bearing upon the rates of production; hence, the discovery that primary relationships were in operation and were relevant to productivity.

In attitudinal research conducted among soldiers during World War II, it was found that the primary group was an important factor in contributing to such attitudes as combat morale. The researchers reported that attachment to an informal group—the protection of friends, the need to conform to primary group expectations—was often given as the most important reason for willingness to enter battle.3

Urban community researchers reinforced the growing feeling that informal groups were significant to communication research. Warner and his associates even used the word "discovery" in reporting the role of the cliques and the determination of its great significance as a social and structural mechanism.4

Each of these studies contributed to a new orientation in communication research; i.e., a shift away from the concept of the hyperdermic effect toward a "situational" or "functional" approach. The rediscovery was not that people belonged to small groups but that these groups were relevant for communication behavior. Students of mass communication had been aware of the fact that members of the mass audience had families, friends, were members of cliques, clubs; but

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they did not realize or believe that those primary group relations might have significant effects upon communication behavior.

With this orientation, an individual came to be seen as part of some larger structure; his network of friends, the shop or office where he works, the bowling team, and his family. Thus, as a part of a larger structure the individual was not treated independently. Researchers began to tie together and interrelate the attributes of these different parts of the structure. "The shared values in groups of family, friends, and co-workers, and the networks of communication which are their structure, the decision of their influential members to accept or resist a new idea—all these are interpersonal processes which 'intervene' between the campaign in the mass media and the individual who is the ultimate target."^5

Methodology in Two Research Traditions

An operational hurdle was involved for those mass communication researchers who did sense the importance of shared values and primary group norms; viz., how to take account to interpersonal relations and still preserve the representativeness of a sample. Since they often aimed at representative national samples in which the respondents were "far apart"

from each other, the variable of interpersonal relations was difficult to get at. (The concept **norm** is understood as a group-shared expectation. **Representativeness** refers to the relation of a sample to some larger universe of theoretical concern and the corresponding level of generalization that is possible.)

Mass communication research remained the private domain of individual psychology so long as mass communication researchers tended to treat the mass audience as mere agglomerations—atomized individuals connected with the mass media and not with each other. Most of the research was concerned with analytical properties of collectives which were obtained by performing some mathematical operation upon some property of each single member. For example, a thousand individuals might be selected randomly and polled, and be found to favor a certain political party or commercial product or have a specific attitude toward poll taxes or capital punishment. Samples were random, never including (except by accident) two persons who were friends; interviews were with one individual and responses were coded on IBM cards which were treated as separate entities.

Rural sociologists, at the time this type of research was being conducted by students of mass communication, were quietly pursuing studies which would contribute immensely to the total understanding of the communication process. The amazing fact is that the two research traditions—mass communication research and rural sociology—while devoting
themselves to the same basic problem, seemed hardly aware of the other's existence.

Ostensibly, the two research traditions did seem almost totally unrelated. Rural sociology suggested the study of communities, traditional values, primary group relationships, Gemeinschaft. Mass communication research epitomized urban society, Gesellschaft, secular values, and secondary relationships.

It was hardly possible for rural sociologists to overlook the variable of interpersonal relations as the mass communication researchers had done. Rural sociologists assumed that individuals talked to each other. For them, primary interpersonal relations—their location, their sizes and shapes, their consequences—were of central importance. In tracing the boundaries of neighborhoods, in showing the relationships of cliques, and in describing the web of kinship, the rural sociologists looked for facts which the mass communication researcher missed in his random national samples.

The change in perspective had several implications for the kind of data collected as well as for the sample design. An understanding of interpersonal processes was now considered important, whereas it had once been overlooked. One writer has suggested, "Perhaps the most important innovation in the kind of data collected is the sociometric type data in the interview, that is, explicit questions about the
respondent's relation to other specific individuals."\(^6\)

Rural sociologists have had, in many of their studies, data available for making this kind of analysis. This data has not always been utilized however, despite its availability. Elihu Katz made the strong assertion that, "Students of rural diffusion, have never mapped the spread of a particular innovation against the sociometric structure of an entire community; paradoxically, a recent study deriving from the tradition of research on mass communication has attempted it."\(^7\) Apparently the first use in the rural sociology tradition of sociometric analysis was Coleman's study (1946) of the adoption of soil conservation practices by Illinois farmers.\(^8\) Once the discovery was made that the mass audience was not as atomized and disconnected as had been thought researchers seem to have proceeded in three directions in taking interpersonal relations into account.

**Studies Characterizing Persons by Individual as well as Interpersonal Attributes**

Much of the pioneer effort to bring in interpersonal attributes comes from experiments conducted at the Bureau of Applied Social Research of Columbia University. Examinations

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\(^7\) Katz, *op. cit.*, p. 439.

have been made of the ways in which influences from a mass media are intercepted by interpersonal networks of communication. These were studies of the patterns of voting decision making, of how housewives try new kinds of food, of the ways in which doctors adopt new drugs, etc. Similar studies conducted elsewhere have dealt with the relevance of variables such as integration among peers or membership in one kind of group rather than another.

**Small Group Research**

Another strategy has been the study of small groups. There have been four main lines of interest or motives for studying small groups. One line of interest has treated small groups as miniature social systems, worthy of study in their own right, but also suggestive of insight into the workings of larger systems. A second line of interest is exemplified by Charles Cooley, who considered small groups as the main agencies in the socialization process.

A third group of researchers has treated the small group simply as a convenient setting in which to study interpersonal relations. The object of study has been the pair, triad, or n-tuple of individuals in relation to each other.

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Finally, small groups studies have been viewed as a means of performing operations upon the physical or social environment. Many researchers have been concerned with improving the effectiveness of work groups.

Small group research, even though it has tended to focus almost exclusively upon what takes place within a system, has provided many clues to the patterns of interpersonal relations in the process of communication. A third group of researchers has undertaken to discover what took place within a social system when change from outside the system was introduced. It is at this point that the work of the rural sociologist has been of major importance.

III. COMMUNICATION LITERATURE IN RURAL SOCIOLOGY

For over two decades rural sociologists have been studying the ways in which new farm practices are accepted in rural communities. In these studies explicit account has been taken of the relevant channels of communication both outside and inside the community. Yet, despite the obvious close relationship of the studies conducted, it was not until the image of the audience was altered that many students of mass communication "discovered" rural sociology.

A rather exhaustive review of the relevant findings of rural sociology for communication research is provided in the following paragraphs since they may not be well known by communication researchers outside the rural sociological tradition. The relative amount of space allotted does not
reflect upon the importance of the other research traditions, but rather brings into the broad picture findings from rural sociology which might otherwise be ignored.

Rural sociological studies related to the diffusion of new ideas date back to the 1920's when administrators in the U. S. Department of Agriculture Federal Extension Service wished to evaluate their program's effectiveness. It was felt that one way to measure the program's effectiveness was to measure the degree to which innovations recommended and promoted by the Extension Service were adopted by communities. The studies of M. C. Wilson are typical of those conducted during this period. One of his earliest studies included data from 7,802 families in ten states. Wilson was neither trained in rural sociology nor associated with a department of rural sociology at the time of his diffusion studies, but his studies done in the 1920's influenced later rural sociological studies.

There was little further diffusion research in rural sociology until 1940 when Kollmorgen investigated the adoption of farm ideas by German-Swiss farmers and non-German-Swiss farmers. From that time diffusion studies became a major area of concentration.

The Ryan and Gross hybrid seed corn study (1943), more than any other, influenced the methods and interpretations of later rural sociologists. Theirs is the "classic" in the rural sociology tradition. Professor Ryan, at Iowa State College, and Neal Gross, at the time a young graduate
student in rural sociology, interviewed a total of 345 farmers in two small Iowa communities, Grand Junction and Scranton.

The major findings from the hybrid seed corn study are as follows:11

1. First use of hybrid seed followed a bell-shaped (not exactly normal) distribution when plotted over time. Gross (1942) classified four adopter categories based on their first use of hybrid corn. Based upon this classification, characteristics such as social status, age, and cosmopolitan-ness were determined.

2. Neal and Gross recognized three stages in the adoption process: (1) awareness—first hearing about the idea; (2) trial—first use; and (3) adoption, or one hundred per cent use.

3. The adoption period covered from awareness to adoption averaged about nine years. Approximately five and a half years was the average from awareness to trial, and three and a half additional years from trial to adoption.

4. Typically, the farmer first heard of the new idea from a salesman, but neighbors were the most influential in leading to adoption.

In the study there was no analysis of opinion leader-

ship. Information was collected from all community members as if they were unrelated respondents in a random sample, even though the use of sociometric questions could easily have been possible (the study was a complete enumeration of two communities). Despite this possible oversight, the depth and breadth of the study is most impressive for its time.

Several studies have followed up some of the leads made by Neal and Gross which have made substantial contributions to our knowledge of the diffusion process. Other rural sociologists have followed a "factors-related-to-innovativeness" approach which Everett M. Rogers calls "unimaginative" and which, in his opinion, have added little to our knowledge of the diffusion process, except to replicate already known findings.12

In the late 1940's two other important research scholars entered the field--Herbert F. Lionberger and Eugene A. Wilkening. Lionberger, while at first researching the sources of farm information utilized by low income farmers, later turned his attention to the role of norms, social status, and opinion leadership in informal transmission of new farm ideas.13

Wilkening's first studies in the diffusion field were those of adoption patterns of North Carolina and then Wisconsin farmers. His North Carolina studies were "the first

12 Rogers, op. cit., p. 35.
13 Ibid., p. 36.
which attempted to utilize a social-psychological approach
to determine relationships among attitudes, values, and group
attachments, and innovations."\(^\text{14}\)

Because so much of the work in diffusion research has
been carried out in recent years, there is now a need for
systematic synthesis of the significant findings. The
studies already completed, however, have attracted wide
attention. A report prepared by a group of rural sociolo-
gists which summarizes the conclusions of some of the
diffusion studies, for example, has had a circulation of
80,000. Called \textit{How Farm People Accept New Ideas}, it has
been translated into several foreign languages.\(^\text{15}\)

As a result of the research mentioned above, we now
know more about information sources and the effect of the
mass media. (An "information source" is used here to refer
to people or mass media, including magazines, radio; and
television; agricultural agencies; and commercial sources,
including local dealers or salesmen.) Sometimes dissemina-
tion of information is a planned function involving complex
organizational structure, while at other times exchange may
occur without planning or elaborate structure.

Intensive study has been made of the ways in which
informal social groups affect diffusion. It has been found

\(^\text{14}\)\textit{Ibid.}

\(^\text{15}\)\textit{How Farm People Accept New Ideas} (North Central
Regional Publication No. 1, Special Report No. 15. Iowa
State College, Ames, Iowa: Ag. Extension Service, November,
1955.)
that informal groups both hinder and aid the transmission of
farm information. Farmers are more likely to seek informa-
tion from persons belonging to the same informal group than
from persons outside the group. This is not only true for
the social clique but for kinship, work-exchange, and other
informal groups. 16

It has also been found that the type of community a
person lives in determines the information source influen-
tial to him. A person living in a "identifiable neighbor-
hood" is likely to seek information from other farmers of
the same neighborhood, whereas persons residing in non-
neighborhood areas are more likely to rely upon institu-
tionalized sources of information. 17

Studies devoted to the use of radio in rural areas
have been relatively few. In a Louisiana study Alvin L.
Bertrand and Homer L. Hitt found that although informational
and educational programs do not rank very high among listen-
ing preferences of the farm population, about four-fifths of
the population sometimes listen to the county or home agent's
broadcasts. One-fourth of this number indicated that they

16Herbert F. Lionberger, "The Relation of Informal
Social Groups to the Diffusion of Farm Information in a North-
east Missouri Farm Community," Rural Sociology, 19 (1954),
233043.

17Herbert F. Lionberger and Edward Hassinger, "Neigh-
borhoods as a Factor in the Diffusion of Farm Information in
a Northeastern Missouri Farming Community," paper presented
at the meeting of the Mid-West Sociological Society, Madison,
Wisconsin, May, 1954.
were regular listeners, whereas one-fifth said they never listened. Radio, however, as a source of farm information, has tended to decrease in importance since 1947.\footnote{Alvin L. Bertrand and Homer L. Hitt, "Radio Habits in Rural Louisiana," Louisiana Agricultural Experiment Station Bulletin 440 (September, 1949), pp. 34, 35.}

Radio's effectiveness as an information source is a function of a phenomenon known to communication research as the principle of audience self-selection. Research which has studied this phenomenon has revealed that a person, whenever he is free to do so, chooses to read certain messages and listen to certain programs, not to others. In one study it was concluded that radio was ineffective in changing rural opinions because rural people generally would not listen to opinions with which they seriously disagreed.\footnote{W. S. Robinson, "Radio Comes to the Farmer," Radio Research, Paul F. Lazarsfeld and Frank Stanton, editors (New York: Duell, Slivane, and Pearce, 1941), p. 267.}

Evidence pertaining to the role of television in the rural adoption process is inconclusive. Whenever direct questioning has been used to determine the influence of television on decisions to adopt to practices, it has been mentioned at all stages in the adoption process. A study in a Missouri county showed a relatively high rate of subject recall and actual trial of ideas on the part of approximately thirty-seven per cent of both heads and wives in open country.
households. 20

A pattern similar to that observed in a previously mentioned study of radio habits in Louisiana was found to exist for television as well. 21 Despite the fact that less than three per cent of the rural Louisiana sample indicated a first or second choice for educational or informational programs, more than three-fifths of both male and female respondents regularly viewed agricultural programs. When interviewers were queried as to their preference of news media for farm news and market reports, over thirty per cent indicated a preference for television. This study also confirmed findings reported from other sources relative to the fact that television has revolutionized the leisure-time activities of those who have access to it. It was found that television has drastically reduced the time that rural people devote to radio, movies and reading. 22 The fact that listening and reading habits have been changed as a result of the impact of television emphasizes the potential this media has for educational media.

Knowledge about stages in the adoption process

20 Herbert F. Lionberger, Television Viewing in Rural Boone County With Special Reference to Agricultural Shows, Missouri Agricultural Experiment Station Bulletin 702 (April, 1958).

21 Alvin L. Bertrand and Frederick L. Bates, Television in Rural Louisiana, Louisiana Agricultural Experiment Station Bulletin 518 (December, 1958), pp. 4, 18-21.

22 Ibid.
provided rural sociologists with a convenient frame of reference for studying the relative effectiveness of information sources. The adoption process includes a series of distinguishable stages. The first stage is the awareness stage, a time at which first knowledge of the idea or practice is gained. This stage is followed by the interest stage. At this stage, the individual is led to seek detailed information regarding the innovation. The third adoption stage is termed the evaluation stage, the point at which the individual weighs the evidence at hand. The next stage has been entitled the trial stage—a stage in which limited application of the innovation is attempted. The final stage in the sequence is the adoption stage. It should be remembered that the five stages are not always followed in the adoption process, nor do they always represent a fixed pattern of progression.

For purposes of analysis, communication has been divided into two main categories variously called informal and formal, oral and media, personal and impersonal. The terms "personal sources of information" and "personal influence" are often used interchangeably although the distinction between the two terms is that communication is the way influence is spread.23

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"A generalization supported by many studies is that impersonal information sources are most important at the awareness stage, and personal sources are most important at the evaluation stage in the adoption process." The mass media have at their disposal well organized means of collecting and disseminating new information; they are able to reach a wide audience quickly. Whenever new technology is available, publishers, broadcasters, telecasters, and government agencies are usually among the first to know of it. Farmers have recognized this and have learned to rely upon the mass media to get new ideas.

Radio and television are at a disadvantage at the trial and adoption stages. The presentation of material in this media is timely and orderly, but subsequent review and reference is impossible for the farmers. Radio and television are thus less satisfactory for fulfilling needs that develop after the awareness and interest stages. Furthermore, the mass media do not relate new information to specific situations. Some farmers need local trial and demonstration before they will try a new idea or practice.

Personal communication has been found to be most important at the evaluation stage because:

1. Personal communication permits a two-way exchange of ideas.
2. Personal communication tends to influence behavior.

\[24\text{Rogers, op. cit., p. 99.}\] \[25\text{Ibid., p. 100.}\]
as well as transfer ideas. The mass media seldom affect decisions in a direct manner, but operate through the intervening variable of group interaction to cause changes in behavior.

3. Greater accessibility and credibility is given as the reasons for the importance of personal information sources at the evaluation stage. People would rather believe people than facts at this stage.

4. Personal information sources often have greater effectiveness in the face of resistance than do the mass media. Impersonal sources can easily be ignored or avoided. Nonreceptive farmers, it was found in a sociometric study, readily seek information and advice from farmers who are highly receptive.

The relative importance of personal and impersonal information sources was measured by Beal and Rogers (2, 4D weed spray) among Iowa farmers. The percentage of responses for personal sources by stages was thirty-seven per cent at the awareness stage, fifty per cent at the interest stage, sixty-three per cent at the evaluation stage, and fifty per cent at the trial stage. Experience gained at the trial stage was reported to be the most important information source by ninety-five per cent of the respondents at the

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26 George M. Beal and Everett M. Rogers, *The Adoption of Two Farm Practices in a Central Iowa Community*, Iowa Agricultural and Home Economics Experiment Station Special Report 26 (1960).
adoption stage. Impersonal sources of information were found to be more important than the personal only at the awareness stage. A similar pattern has been found in other studies.

The National Project in Agricultural Communications (NPAC)

In the years which followed World War II, the land-grant institutions of higher education rapidly expanded their activities on many fronts. Coupled with the non-campus teaching boom, new off-campus education, projects came into being for these institutions to make studies for them. In addition there were foreign programs with the result that each year thousands of specialists and technicians were brought from other countries to the United States. The general public turned to government and to education, as never before, for help in solving problems.

Problems in communication between the land-grant institutions and the outside publics were thus becoming increasingly complex. The agricultural information worker was caught in the same rapid change. The commercial media he depended upon to use the stories and other items he produced were changing. Newspapers, especially the large metropolitan ones, were giving less priority to agricultural information than formerly. The copy that was used had to be better written, more localized. Farm magazines were upgrading their quality with more attractive and readable issues. Television was on the scene and radio had begun to adjust to the presence of the new rival.
In the colleges, there were more extension specialists and more researchers. With more bulletins, more research papers, and more programs, agricultural information staffs mushroomed in many places.

After preliminary studies had been made which took these factors into account the National Project in Agricultural Communications was established March 1, 1953. The project was sponsored jointly by the American Association of Agricultural College Editors and the American Association of Land-Grant Colleges and State Universities. It was primarily financed through grants from the W. K. Kellogg Foundation and payments for services rendered to the various land-grant institutions of the country. The proposal which became the charter of the NPAC was: "To assist administrators and information workers in our land-grant institutions and the United States Department of Agriculture in using present and potential communications more effectively and efficiently in extending to the entire public the services and facilities of their institutions."^{27}

The charter listed four specific objectives:^{28}

1. Bring the results of research in general and applied communications to the attention of all agricultural

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^{28}Ibid.
communication workers, and facilitate and encourage the applications of this knowledge in improving agricultural communications.

2. Improve the professional competence of those who are or expect to be involved in communications.

3. Improve the quality of communication materials issued by the land-grant institutions and USDA by providing needed counsel and services to the staffs of these institutions.

4. Obtain more adequate and reliable information on communication problems by sponsoring, encouraging or directing needed specific studies.

One of the first things done in the program was to start a collection of studies and bibliographies of studies in communication and related areas. The NPAC set up a file of over 11,000 titles of research reports. Several bibliographies of research related to specific areas such as diffusion and questionnaires were compiled.

In June, 1955, the publication of Agrisearch began. Agrisearch was a four-page pamphlet that each month attempted to draw together research studies pertinent to a particular subject and integrate them into a productive pattern. The research was examined in some detail and possible guides for practical action and further research were suggested. Agrisearch was distributed free to a mailing list of agricultural and home economics editors and administrators in the land-grant system. The mailing list eventually reached 5,000 names.
Agrisearch became Search in 1958 and went on a subscription basis. Its purpose was stated in the first issue:

1. To report research on human behavior as seen through education and communication;
2. To interpret research findings so that they may serve as guides to action;
3. To encourage additional research by suggesting questions that need answers.

Search is a well-written publication with thoroughly documented research. The commitment to social action is always evident. The format is attractive and the background information is relevant.

The NPAC has placed in published form three books and one monograph. They are:
1. Adoption of New Ideas and Practices--Dr. Herbert F. Lionberger.
2. Legibility of Print--Dr. Miles A. Tinker.
4. Radio--A monograph by Dr. Kenneth Harwood.

Communication production people have thus been familiarized with research and research results. Those interested in specific problems have been encouraged and assistance has been given by NPAC in setting up, interpreting, and applying research. Furthermore, the NPAC has shown what can be done in integrating and synthesizing research information and making it available to potential users.

Agrisearch (Search), the abstracts, the bibliographies, and the monographs have all been significant contributions to increased and organized knowledge in the field of communication.

IV. COMMUNICATION RESEARCH: ADDITIONAL FINDINGS FROM SEVERAL RESEARCH TRADITIONS

The combined communication literature of the social sciences has cascaded recently; such a stage of profusion and disarray, characteristic of all proliferating disciplines, has developed that research administrators now speak wistfully of establishing centers where the accumulating data might be sifted and stored. Clear-cut generalizations that can be drawn from the literature, however, are few and far between.

When questions have been asked about the effects of mass communication, definitive answers have not been given or else evidence has been provided in partial support of every hue of every view. This fact has contributed to widespread pessimism which exists both among the interested lay public and within the research fraternity. Some, however, take no such pessimistic view. They feel that we already know a great deal more about communication than we thought we did, and that we are on the verge of being able to proceed toward more abundant and more fruitful knowledge.

Perhaps one of the best ways to indicate that there is no basis for pessimism about communication research is to
mention a number of recent scholars from various disciplines who have made substantial contributions to the field.\textsuperscript{30}

**The Psychologists**

Among those in the field of psychology who have made significant additions to knowledge about the communication process is Gordon Allport, who, with Leo J. Postman, investigated the social psychology of rumor. They showed how messages are distorted in the process of diffusion to coincide with the attitude and knowledge of those who transmit them.\textsuperscript{31}

Hadley Cantril, a contributor to the field of public-opinion measurement, wrote, with Hazel Gaudet and Herta Herzog, the classic case study of mass reaction and panic that resulted from Orson Welles' famous radio broadcast, "The War of the Worlds."\textsuperscript{32} Two other important innovators in the field, Carl I. Hovland and Walter Weiss, have investigated the extremely important concept of credibility sources as factors in communications.

Psychologically oriented studies have not been restricted to the United States for data. A Yale psychologist,


Leonard Doob spent two years in Africa where he analyzed the complex pattern of communications within rival communities in a comprehensive treatment of African culture.33

The theory of cognitive dissonance, which considers how individuals try to affect their structuring of the world by giving meaning to their environment, helps to explain why people seek certain kinds of information. Research of this type by Leon Festinger has already made its influence felt in the field.34

Alex Bavelas, a disciple of Kurt Lewin—the German Gestalt psychologist, has shown that the ways in which members of a group may be linked together by a network of communication are numerous.35 Another member of the Lewinian group, Dorwin Cartwright, has utilized group dynamics principles to analyze the various communications which are in agreement with the individual’s existing attitudes and interests.36


36Dorwin Cartwright, "Some Principles of Mass Persuasion: Selected Findings of Research on the Sale of
The Sociologists

Though Robert K. Merton is best known as a social theorist, it is equally true that he has contributes substantially to the evolving field of communication research. It was he who provided one of the classic case studies: the effects of a war bond drive conducted by Kate Smith.37

Another sociologist, Bernard Berelson, has contributed extensively to the field. Many consider his most important work to have been an analysis of radio and the print media as factors in political opinion and voting, the famous The People's Choice, a work in which he collaborated with Lazarsfeld.38

Sociologists have also been interested in attitudes and opinion formation. Valuable contributions have been made by researchers such as Samuel Stouffer and Elihu Katz. Stouffer's major contributions to communication theory are in The American Soldier39 and his analysis of public opinion on civil liberties.40 Herbert H. Hyman (in collaboration with


39Stouffer, loc. cit.

Paul B. Sheatsley) has analyzed the reasons why information campaigns sometimes fail.41

To single out certain studies here as sociological in nature does not imply that studies cited in earlier paragraphs do not have sociological implications nor does this section imply that these are the only sociological investigations worthy of note. In fact, reference has already been made to other investigations by outstanding sociologists.

An exhaustive treatment of the sociological literature would of necessity include the findings of such men as Robert E. Park, George A. Lundberg, C. Wright Mills, Otto Larsen, and Warren Breed, to mention just a few. The works cited in this section do, however, point up the keen interest that sociologists have in the field and demonstrate to some extent the contributions they have made and are making to the over-all knowledge of the phenomenon.

Political Scientists

A political scientist, Walter Lippmann, in his work, The Phantom Public, clarified the conception of the mass audience by rejecting the theory of a unified public capable of taking the initiative in any public action. He continues to be one of the foremost thinkers about public opinion and

related matters.\textsuperscript{42} A number of other political scientists could be mentioned for their contributions to our understanding of mass communications; almost everyone who has written on modern political phenomena at one time or another deals with the mass media.

The Anthropologists

Heretofore, the direct impact of anthropology upon mass communications research has not been extensive, but with the revised conception of the mass audience, a re-evaluation of the diffusion studies produced by the anthropologists is in order. In the early days of anthropology, an argument raged as to which was most important—diffusion or parallel invention. That is, the question was whether ideas were independently invented in separate cultures, or whether an idea once invented in one culture was diffused to the other. A great number of anthropological studies were concerned with investigating the acceptance of modern ideas by primitive societies.

The anthropologists, notably Ralph Linton, were among the first to recognize that the characteristics of an innovation affect its rate of adoption. They also tended to emphasize the social consequences of innovation more than any other research tradition. This awareness is exemplified in

Sharp's analysis of the effects of the adoption of the steel axe by Australian natives.43

Perhaps the best known writing on diffusion in the anthropological tradition is the book by Barnett entitled *Innovation*.44 In this work the author is concerned with describing the adoption of innovations at the psychological level. His data come from six cultures which range from modern American society to Pacific Northwest Indian tribes.

More recently anthropologists have emphasized cross-cultural studies. In a number of these studies they show how change agents have failed in their programs because they did not fully take account of the cultural values of the target audience.

More and more anthropologists are becoming involved in applied fields, particularly in various programs of directed change in the developing nations. Cornell University has been active in this field; men such as Edward H. Spicer have made significant contributions so that a rather exhaustive bibliography is now available.45

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The Journalism-Communications School Researchers

The leading schools of journalism have been active in certain phases of communication research, and their research interests have tended to be somewhat broader than those of the other behavioral sciences. Wilbur Schramm, Raymond B. Nixon, and Ralph D. Casey represent this type of approach. Wilbur Schramm has been most important in the field and has exerted an influence on a generation of students, many of whom are today actively engaged in communication research. His major interest in recent years has been a study of the effects of television on various segments of the American society where he has particularly noted the role that television plays in the life of children.46

The number of sophisticated studies dealing with communication in this research tradition has increased each year. The Journalism Quarterly provides additional sources of current investigation into various phases of the communication process.

Conclusions

As already noted, the scope of communication research is so wide that it is impossible to treat with any degree of accuracy the many streams that feed the ever-increasing flood of research. For example, virtually hundreds of studies have

investigated the influence upon both instruction and persuasion of an almost endless list of variables related to the organization of content and to techniques of presentation. A number of studies of such matters have been performed in the course of a continuing research program which has been pursued at Pennsylvania State University for more than a decade.

Other extensive programs have been pursued by the various armed services and by the Yale Communication Research Program. Though many of these investigations are education-oriented, the findings are certainly relevant to the broader study of communication.

No attempt has been made here to survey or cite the findings of the vast literature from this field and other related research traditions. To collect and digest the studies, to identify and compare, to take into account that which is not relevant, and to present the sum of it all is a task which would necessarily occupy considerable staff several years. This compilation would obviously be most helpful; many hope that the necessary human and financial resources will be brought to bear upon the problem before the literature becomes so vast that it can no longer be surveyed at all.

V. THE SELECTIVE PROCESSES IN THE LITERATURE OF THE SOCIAL SCIENCES

Research on communication and evidence gathered in sociology and in other social sciences repeatedly shows how difficult it is to communicate with individuals who are not
already in favor of (predisposed to) a given message. It has been found that people tend to avoid the issues which are at odds with their own views and beliefs. The consequence is that great difficulty is experienced in reaching people who are not in favor of the content of a message. The persons to whom a message is directed may be least likely to be reached by it. Thus it is not enough merely to increase the volume of messages if they are reaching only those already familiar with them.

The processes involved in these self-protective exercises have become known as the selective processes—selective exposure, selective perception, and selective retention. The phenomenon of selective exposure has been amply documented. Among the voters of Erie County in 1940, Lazarsfeld, Berelson, and Gaudet found that Republican partisans tended not to listen to Democratic candidates and vice versa.47 A media campaign designed to increase information about the UN and improve attitudes toward it was found to have been most widely attended by persons whose interest in the organization was high to begin with.48 Cooper and Jahoda reported selective exposure to a radio program intended to promote


friendship and mutual respect among immigrant groups. They found that a program about Italians was listened to mainly by Italians, a program about Poles by Poles, and so on.49

The phenomena of selective perception and selective retention are regarded as axiomatic by some writers. Lindesmith and Strauss conclude, "The facts are that perception is selective, that motivation and needs sensitize one to specific stimuli or sometimes lead to distorted perception, that stimuli are often misinterpreted, and that perceptions of the same situation may vary from individual to individual. . . ."50

Selective perception has been observed to be especially pronounced in social interaction particularly in situations in which a person's self-esteem is at stake. The psychiatrist H. S. Sullivan coined the expression "selective inattention" for the process in which "we fail to recognize the actual import of a good many things which we see, hear, think, do, and say, not because there is anything the matter with our zones of interaction with others, but because the process of inferential analysis is opposed by the self-system."51

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Several studies of selective perception-retention have become well known even outside scientific circles. A few of the more important ones are mentioned in Chapter VII. Others are reported in Search. Also, the more significant research related to the selective processes has been summarized by Joseph T. Klapper in The Effects of Mass Communication. 52

VI. MAN-CAUSED FOREST FIRES IN THE LITERATURE OF THE SOCIAL SCIENCES

The relationship between cultural patterns and fire setting by rural forest residents was recognized long before there was any systematic research of the phenomenon. As early as 1936 W. I. White wrote that much of the fire setting problem in the low income communities was culturally determined. 53 A year later G. L. Fraser advocated law enforcement as a preventive measure to check the activities of the confirmed burner who, he felt, would persist in periodic burning regardless of the consequences so long as it was profitable to him.

In 1938 John P. Shea, a psychologist hired by the Forest Service, directed field studies aimed at discovering the "influences which made people careless in some ways and


53 W. I. White, "The Ethics of Woods Burning," Fire Control Notes, 1-3 (December, 1936), 47.
not in others, to discuss what habits and attitudes result in carelessness with fire, and how such habits get started."\textsuperscript{54}

Sociological analysis of the phenomenon has also been undertaken. An early study from the rural sociological point of view was that of Harold F. Kaufman. His study, based on the cultural bases of the problem of reforestation in the Clark National Forest in the Missouri Ozarks, included a description of the traditional folkways which influenced behavior harmful to forest development.\textsuperscript{55} Two specific purposes were set for the study. The first was to describe and explain the behavior of rural forest residents toward their environment. The second was to make recommendations regarding propaganda techniques and public education which would bring about a change in attitudes and behavior.

In the analysis that followed, Kaufman classified certain attitudes as favorable and unfavorable toward the reforestation program. These attitudes were postulated as motivational constructs of behavior.

Another sociological study of the phenomenon was

\textsuperscript{54}John P. Shea, "Man-Caused Forest Fires: The Psychologist Makes a Diagnosis" (Washington: U. S. Department of Agriculture, Forest Service, 1939), p. 3. (Mimeographed.)

undertaken by George H. Weltner.\textsuperscript{56} The findings in this research were based on information gathered from two forest districts, the Vernon unit of the Kisatchie National Forest, Louisiana, and the Wakulla unit of the Appalachianola National Forest, Florida. The choice of these two study areas was largely dictated by the fact that a differential fire occurrence rate prevailed in the two forest areas. The purpose of his study was to determine what factors led to a high fire rate in one area and a specification of the factors which tended to result in low fire rates in the other.

Weltner identified two classes of man-caused fires—those related to economic interests such as facilitating cattle grazing and those stemming from resentment against the Forest Service. A third category of fires called "delinquency fires" was also suggested but evidence for findings was inconclusive.

It was not until the beginning of the 1960's that additional major research was attempted which dealt with the relationship between human behavior patterns and forest fire causation. In 1960, William H. Herrmann\textsuperscript{57} studied levels


\textsuperscript{57}William H. Herrmann, "A Study of Levels and Sources of Fire Prevention of Knowledge Possessed by Two Types of Forest Users: An Application of Electronic Data Processing to Behavioral Research" (unpublished Doctor's dissertation, University of Southern California, Los Angeles, 1960).
and sources of fire prevention information possessed by residents of the forest and recreationists. Though his study was basically descriptive, Herrmann derived two hypotheses which might conceivably serve the purpose of future exploration. The first hypothesis was that the level of fire prevention knowledge varies with respect to the variables of age, sex, occupation, and residence. The second hypothesis was that the source of fire prevention knowledge also varied with respect to the same variables.

A basic premise of Herrmann's study was that behavior is a manifestation of attitudes. The work has been criticized because of Herrmann's failure to relate behavior to the social and cultural systems which are the ultimate sources of attitude formation.\(^58\)

The most recent investigation of the particular problems encountered in the Southern Forest Region has been that of Thomas Hansbrough and, three years later, that of Arthur Rutledge Jones. Hansbrough hypothesized that man-caused forest fires could be explained in terms of certain socio-cultural factors which are related to land usage. In fact, the study demonstrated that fire setting could be understood in terms of the cultural complex of a specific area. Based on his observation that rural residents viewed

the practice of forestry as an innovation threatening their way of life, Hansbrough concluded that fire prevention programs could be successful if they proceeded within the framework of the cultural complex of the people. 59

Of particular interest to the present research is the fact that Hansbrough felt part of the problem to be one of communication and suggested more attention be devoted to "selling" forestry to rural people through educational programs which they would understand and accept. 60 Smokey the Bear appears to have been mentioned only once during the 219 interviews and this reference was not completely favorable. ("In somewhat a farcical manner, while discussing burning the woods, a male respondent commented, 'Of course, my granddaughter would say that Smokey the bear wouldn't like it.'") 61

An attempt to provide a theoretical framework which would serve to indicate the relationships between social, cultural, and personality variables was a feature of the investigation undertaken by Jones. In his analysis he utilized data collected in the Kisatchie National Forest in West Central Louisiana in the framework of four structural categories of social systems (i.e., goal attainment activity, patterns of adaptation, pattern maintenance variables, and


60 Ibid.

61 Ibid.
social integration). He argued that attitudes actually reflect the organization of value systems and patterns of meaning common to individuals in their reference group or groups. 62

The hypothesis that the belief in customary burning without regulation was tested positively. The hypothesis that revenge as a motive for burning would be associated with cattle ownership was not supported. The hypothesis that belief in periodic burning would be associated with cattle ownership was not conclusively supported. Furthermore, non-owners believed that burning should be regulated more often than did the owners.

After defining the research problem in terms of social subsystems, Jones was able to evaluate some of the effects which had resulted from the confrontation. For example, it was shown that whereas only thirty per cent of the residents in 1941 were characterized by beliefs favorable to fire regulations, twenty years later two-thirds of all respondents were in favor of regulations. 63 It was concluded that a relative stability had been re-established in the general action situation.

Both Jones and Hansbrough indicated that the attitudes of the residents were a significant factor in woods behavior. Neither of the studies, however, attempted to relate these attitudes to specific stages in the communication process.

More recently, an exploration of the effect of Forest Service signs has been undertaken in Southern California (the San Bernardino National Forest). This study tested the hypothesis that a change in sign coloring might result in making them more noticeable to motorists. The results of the experiment, however, were negative. The change in color has no appreciable effect upon recall. Furthermore, one-third of the respondents reported seeing a sign which actually was not in use during the test period. The highest proportion of respondents reporting having seen a specific sign was 87.4 per cent; whereas the lowest proportion for a specific sign was 25 per cent. The degree of exposure appeared to be the determining factor in the number of signs reported observed by motorists.

The failure of the experiment to produce any marked effect was explained by Folkman to be due, in part, to the high level of familiarity with the signs. No attempt was made in the study to relate the negative responses to individuals predispositions or attitudes (selective perception and selective retention).

The results of a recent investigation—this one from the Southeast—involve a specification of certain factors

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related to the adoption of woodland management practices.\textsuperscript{65} Data for this study were obtained by personal interviews with 185 woodland owners in Southeast Louisiana. Specific attention was given to the characteristics of woodland owners with high adoption rates. Among other things, it was found that the factors which were related to high adoption were: children at home; type of occupation; size of holding; perception of woodlands as beneficial; general tendency toward high adoption; and socio-economic status. Particularly interesting was the fact that more than half of the high adopters of woodland practices were also high adopters of other practices. Thus, the hypothesis that action-habits and attitudes would not be compartmentalized was supported.

An attitude orientation scale was developed for the study whereby all interviewees were classified as "conservatives," "moderates," or "progressives" according to their responses to attitude questions. No conservative was classified as a high adopter of recommended practices; furthermore, very few progressives were classified as low adopters. These findings were consistent with previously reported patterns.\textsuperscript{66}

\textsuperscript{65}Donald R. South, Thomas Hansbrough, and Alvin L. Bertrand, "Factors Related to the Adoption of Woodland Management Practices" (Louisiana State University Agricultural Experiment Station, In cooperation with the Southern Forest Experiment Station, Bulletin No. 603, September, 1965).

The most recent study conducted in the Pacific South­west has been concerned with levels of knowledge and atti­tudes regarding fire use and abuse. Preliminary evidence indicates that the starting of wildfires in that region is not culturally supported as it has been in the Southeast, although under certain conditions culturally patterned evasions of fire regulations is accepted in much the same way that traffic violations are. This study is of particu­lar interest because of the emphasis placed upon levels of fire prevention knowledge as related to a number of socio­economic variables and to actual experience with forest fires.67

The socio-cultural aspects of man-caused forest fires are continuing to be studied not only in the Pacific South­west but also in the Southeast. All indications point to an expanded literature growing out of current studies at the Pacific Southwest Forest and Range Experiment Station, the Social Science Research Center (Mississippi State University), and at Louisiana State University.

VII. SUMMARY

This chapter is intended to provide an orientation for understanding the impact of mass communication upon the forest public. To accomplish this purpose the literature of three specialized research areas has been cited: mass communication research, diffusion research, and social science oriented studies of man-caused forest fires.

Early developments in the field of communication research have been reviewed and the increasing interchange that is taking place between various research traditions has been reported. It is believed that this interchange has developed largely because of a revised view of the mass audience; that is, researchers have come to view target individuals, not as isolated units, but as interacting members of primary groups.

Particular attention has been called to the literature in which the phenomenon of selective perception-retention has been dealt with. Of particular note in this respect is the relationship between cognitive structure and the selective processes. (Cognitive structure is defined as the content and relationships among the parts of a person's mental world, built up from previous experiences, attitudes, values, and all those things that impinge on his existence.) The position has been taken in the literature that a person's behavior is a function of his cognitive structure.

If a message is not consistent with an individual's
cognitive structure, it may be rejected, or distorted, or it may actually produce the desired change. It has been suggested that the selective processes do occur quite frequently and, when they do, they function as a protective net in the service of existing predispositions.

The role of rural sociologists in diffusion research has been pointed out. Finally, the growing number of sociologically and psychologically oriented research reports dealing with man-caused forest fires have been summarized.

In the following chapter the setting of this investigation is described. In Chapter IV there is a statement of the procedures involved in investigating problems which have been suggested by a reading of the literature discussed in the present chapter.
CHAPTER III

THE STUDY SETTING

A description of the study area is presented here in order to help the reader visualize the setting. Geographical, historical, socio-economic, and demographic factors are noted. Particular attention is given to an explication of cultural characteristics of the area because of the suggested relationship between shared group values and individual communication processes.

I. SELECTION OF A RESEARCH SITE

Certain administrative requirements of the Forest Service were considered in the selection of a research site. These requirements included, among other things, selection of an area in the rural South where there was a high incidence of man-caused forest fires. Furthermore, it was specified that there be forestland within the area which was protected by national, state, and private fire control agencies. Several locations were investigated by a committee composed of personnel of the Forest Service and social scientists. The writer, along with sociologists from Mississippi State University and Louisiana State University, participated in the selection procedure. After several weeks of delibera-
tion, the area of Forrest and Perry counties in the state of Mississippi was decided upon as the site most suitable for meeting both the research and administrative requirements.

II. GEOGRAPHICAL FACTORS

Forrest County is a part of the Mississippi Lower Coastal Plains Area. It, along with three other counties in the state are considered a part of the same geographical area--George, Green, and Lamar counties. The terrain of the county is gently rolling with many small streams and rivers cutting through the valleys, all of which are part of the East Gulf Drainage Area. The elevation of the area is never above 300 feet. Large tracts of longleaf pine predominate the area; in fact, about three-fifths of the farmland is woodland.

Hattiesburg, at the junction of the Bowie and Leaf rivers, is the largest city in the Lower Coastal Plains Area. It is in the northern part of Forrest County approximately 65 miles north of the Gulf of Mexico.

The climate of the area is temperate. Prevailing southerly winds bring in warm, moist air favorable for the development of thunderstorms which, during summer, are quite frequent. Usually, the cold and heat are not extreme. Snow is of no major importance.

Within the 469 square miles of Forrest County, Hattiesburg and Petal (an adjoining unincorporated area) are the only towns of any size. There are, however, several small
villages, communities, and neighborhoods such as Rawles Springs, Hickory Grove, McLaurin, Maxie, Fruitland Park, Brooklyn, and Carnes within the county.

The DeSoto National Forest, at the southernmost part of Forrest County, spreads over into virtually all of Perry County. Within Perry County there are only three incorporated towns: Richton, New Augusta, and Beaumont.

A United States Army installation, Camp Shelby, is located south of Hattiesburg near U. S. Highway 49. Nearby the camp is Shelby State Park (recently renamed Johnston State Park). This large park includes, among other things, a lake and vacationing facilities such as cottages, camps, docks, etc.

Two communities in the southern part of Forrest County were specifically chosen for special investigation—Brooklyn and Carnes. Brooklyn, located approximately 17.5 miles south of Hattiesburg, was the more densely populated of the two communities. Neither, however, was incorporated.

It was estimated that there were approximately 230 homes in Brooklyn. There were several service stations, two cafes, two grocery stores, a general merchandise shop, a post office, two schools, several churches, and a few other buildings most of which were vacant. The Brooklyn Nursery, a U. S. Forest Service installation, was nearby. Brooklyn gave an outsider the impression that things had once been better but a brave fight was being waged to keep what remained.

Carnes Community, located approximately four miles to
the southwest, was reached by following an asphalt farm-to-market road which led directly to the community and intersected with State Highway 13. The Carnes school (vacant since 1965), three small stores, two churches, and several homes were located approximately 200 yards north of State Highway 13. There were several service stations and country stores along the highway in the area generally recognized as the Carnes community.

The importance of Carnes as a community appeared to be a thing of the past. Educational and economic functions had been shifted elsewhere. Its school had been consolidated and moved to Brooklyn. One of its places of business closed while the interviewing was being conducted. The churches, all very small, and a few stores were all that remained. Homes in the Carnes community were more widely dispersed than those in Brooklyn and were estimated to be about 240 in number. Carnes community covered approximately 41,600 acres. Brooklyn, approximately 35,840. National forest land in the two communities was 15,960 acres and 15,320 acres, respectively.

III. HISTORICAL FACTORS

The study area was once a part of the Choctaw Indian lands. By the 1880's, however, the land was largely public domain—an unbroken pine forest subject to entry at the U.S.
Government land office in Jackson, Mississippi at $1.25 per acre.\(^1\)

The late 1800's were years of expansion. Settlers were moving westward from the Atlantic Seaboard states. Existing railroads were being extended and new ones were being formed.

One of the men who was to have a conspicuous part in the development of the region was Captain W. H. Hardy, a lawyer and former Confederate soldier, who had become vice-president of the New Orleans and Northeastern Railroad. A decision had been reached by that firm to extend the line to Black Creek and Hardy was engaged to supervise location of the line and secure rights of way.

He was familiar with the difficulties of exporting lumber through the port of New Orleans and had begun to consider the advantages of the harbor at Ship Island (located at the Mississippi Gulf Coast). Moreover, he was acquainted with the history of the Gulf and Ship Island Railroad which had been contemplated prior to the War Between the States.

Hardy, having become familiar with the topography of the region, sketched the probable line of the Gulf and Ship Island Railroad to the place where it would probably intersect the contemplated New Orleans and Northeastern Railroad.

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The place of that intersection proved to be the site of the present city of Hattiesburg. He decided to locate a station at that point and name it in honor of his wife whose name was Hattie.

At the time of Hattiesburg's founding, the entire region was sparsely settled from the northern boundary of Jones County to Lake Pontchartrain. When the New Orleans and Northeastern Railroad Company completed its line, a depot and eating house was built along with repair shops and a roundhouse. A village of 300-400 inhabitants soon sprang up and by 1884 there were two or three stores.

Early settlers of Scotch, Irish, and English extraction were attracted by the vast acres of virgin pine timberlands. Hattiesburg's location was favorable for this growth; it was 70 miles from Gulfport, 110 miles from New Orleans, 150 miles from Natchez, 90 from Jackson, and 96 miles from Mobile. Moreover, the newly-extended railroad made the town readily accessible.

Virgin pine timberland which once could be bought for $1.25 per acre became increasingly valuable in the early 1900's. An installation which was claimed to be "the largest saw and planing mill in the South" was built in Hattiesburg by capitalists from New York and Pennsylvania and was known as the J. J. Newman Lumber Company.²

During this boom period Hattiesburg became the county

²Ibid., p. 851.
seat. Real estate increased steadily in value. New banks were organized and a system of electric lights and telephones was built. Streets were paved and a courthouse costing $75,000 was constructed. A five-story hotel valued at approximately $200,000 was built with "furnishings second to none in the South." Clearly, prosperity was here to stay, or so it seemed.

The pine timber, however, could not last forever at the rate it was being lumbered. By 1915 large areas were cut out and a number of the large mills began to dismantle their plants. The people of Hattiesburg found that a new way of life was necessary and they set about to adjust themselves to new ways of making a living.

The citizens of Hattiesburg had an advantage in that, unlike other towns of the Long Leaf Pine Belt, their city was never wholly dependent upon the lumber industry for economic security. At the time of the lumber boom, the city was well established as a railroad center and had several major industrial plants which kept it from being too drastically affected by the period of inflation and the subsequent crash. The Federal Writers Project of the Works Progress Administration in 1938 documented this fact as follows: "With timber practically exhausted, Hattiesburg is following the trend of other New South Cities in the encouragement of diversified industries. Recently in addition to naval stores

\[^3\text{Ibid.}, \text{p. 852.}\]
plants, several other factories have been established.  

The trend toward diversification, alluded to in the paragraph above, has continued to the present time. Agriculture is mechanized and diversified and recent experiments have included production of new products. Industrial expansion, though not dramatically abrupt, has been steady. Cut-over land which came under federal control in the 1930's has been reforested. Reforestation practices have also been followed by private land owners as well as by government agencies so that timber and forestry products are still a major part of the local economy. These factors, important in recent years, are systematically presented in succeeding sections of this chapter.

IV. ECONOMIC FACTORS

The Forrest-Perry county economic area is basically agricultural though several relatively important industrial enterprises are in operation. Natural pasture of the area has been developed and beef and dairy herds are increasing. Poultry, sweet potatoes, and other products have become a source of income for the area.

Railroads, important in opening up the area, have had a conspicuous role in its development. Today Hattiesburg is

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served by four railroads. These are: Bonhomie and Hattiesburg Southern Railroad, the Illinois Central Railroad, the Mississippi Central Railroad, and the Southern Railroad system.

There are several manufacturers in the county which employ 100 or more persons. The principle products and number employed are as follows: lumber (100); chemicals (200); poultry processing (225); pecan processing (100); chemical-naval stores (1,000); meat products (160); fertilizer (100); envelopes (205); refining crude oil (150); apparel (1,300); and bakery products (150).

In 1960, the civilian labor force in Forrest County included 18,127 persons. Its composition is portrayed in Table I.

There are four federal highways, U.S. 11, 49, 98, and 59, which serve Hattiesburg in addition to a network of state highways and farm-to-market roads.

Nine motor freight lines have terminals in Hattiesburg which offer direct service to Mississippi and the major cities of the South. The Arrow, Continental, Greyhound, and Gulf Transport and Natchez Transit Bus lines operate a total of 37 buses through Hattiesburg each day. The city is served by Southern Airways; connections are made with major air routes.

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<table>
<thead>
<tr>
<th>Employed Persons</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>18,127</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>526</td>
<td>2.9</td>
</tr>
<tr>
<td>Construction</td>
<td>1,479</td>
<td>9.2</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durable Goods</td>
<td>657</td>
<td>3.6</td>
</tr>
<tr>
<td>Nondurable goods</td>
<td>2,486</td>
<td>13.7</td>
</tr>
<tr>
<td>Transportation, Communication and other Public Utilities</td>
<td>1,245</td>
<td>6.9</td>
</tr>
<tr>
<td>Wholesale and Retail Trade</td>
<td>4,062</td>
<td>22.4</td>
</tr>
<tr>
<td>Finance, Insurance, and Real Estate</td>
<td>636</td>
<td>3.5</td>
</tr>
<tr>
<td>Educational Services</td>
<td>1,500</td>
<td>8.3</td>
</tr>
<tr>
<td>Public Administration</td>
<td>764</td>
<td>4.2</td>
</tr>
<tr>
<td>White Collar(a) Occupations</td>
<td></td>
<td>41.0</td>
</tr>
</tbody>
</table>

\(a\)Professional, managerial (except farm) clerical, and sales.

Hattiesburg has one university and one college. The University of Southern Mississippi, with an enrollment of 7,500, is probably the fastest growing university in the state. William Carey College, a fully accredited co-educational institution, operates under the direction of the Mississippi Baptist convention. Recently, the enrollment of the college surpassed the 1,000 mark for the first time in its history.

The city of Hattiesburg is the medical center for an area consisting of the counties in its trade territory. There are two hospitals in operation in the city along with several medical clinics.

Natural gas is available in the area and is brought from fields in Louisiana and Mississippi. Petroleum deposits, incidentally, have been discovered and produced near the Carnes Community. The economy has been stimulated within the last two years as a result of United States Government installations connected with the Atomic Energy Commission. Also, a number of construction workers have been employed in the completion of one portion of the Interstate Highway System which passes through Forrest County.

V. RELEVANT SOCIO-ECONOMIC FACTORS

Opportunities for formal schooling are usually considered basic to the development of an area. In this respect Forrest County ranks high. The median years of school completed in 1960 was 11.0 years in Forest County and 8.5 years
in Perry County, compared with 8.9 years for the state as a whole and 10.6 for the United States. A total of 42.9 per cent of Forrest County residents had completed high school or more. The corresponding figure for Perry County, incidentally, was only 22.7 per cent. The percentage of persons in Forrest County who failed to complete less than five years of school was below the state average (11.1 per cent compared with 18.8 per cent) but was well below the corresponding figure for the United States as a whole (8.4 per cent). (More detailed characteristics are presented in the accompanying tables.) As one would anticipate, the percentage of residents completing high school and college tended to be lower in the rural areas of the county than in the urban areas. Then too, it must be remembered that the presence of two institutions of higher learning in Forrest County had an appreciable affect upon the standard and level of education attainment within the country.

Salaries in the area are generally low especially when compared with the United States as a whole, but they are relatively high when contrasted to corresponding figures for the state of Mississippi. Family income in 1959 was $4,000 in Forrest County, $2,484 in Perry County, $2,884 in the state of Mississippi and $5,600 in the United States as a whole.

Of particular note is the fact that 37 per cent of the families in Forrest County earned less than $3,000 in 1959. These low income families tended to rural or non-white or both.
### TABLE II

**AGRICULTURE, SELECTED CHARACTERISTICS FOR THE UNITED STATES, MISSISSIPPI, FORREST AND PERRY COUNTIES, 1959**

<table>
<thead>
<tr>
<th>Area</th>
<th>All Farms</th>
<th>Proportion of All Land in Farms Per Cent</th>
<th>Size of Farms</th>
<th>Farms Under 10 Acres</th>
<th>Farms 1,000 Acres and Over</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Farms</td>
<td>Proportion of All Land in Farms Per Cent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>2,710,403</td>
<td>49.5</td>
<td>303</td>
<td>244,328</td>
<td>136,427</td>
</tr>
<tr>
<td>Mississippi</td>
<td>138,142</td>
<td>61.6</td>
<td>138</td>
<td>10,674</td>
<td>2,450</td>
</tr>
<tr>
<td>Forrest County</td>
<td>901</td>
<td>32.3</td>
<td>108</td>
<td>54</td>
<td>6</td>
</tr>
<tr>
<td>Perry County</td>
<td>762</td>
<td>20.8</td>
<td>114</td>
<td>18</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>United States</th>
<th>Mississippi</th>
<th>Forrest County</th>
<th>Perry County</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Median School Years</strong></td>
<td>10.6</td>
<td>8.9</td>
<td>11.0</td>
<td>8.5</td>
</tr>
<tr>
<td><strong>Completed Less Than 5 Years of School</strong></td>
<td>8.4</td>
<td>18.8</td>
<td>11.1</td>
<td>17.7</td>
</tr>
<tr>
<td><strong>Completed High School or More</strong></td>
<td>41.1</td>
<td>29.8</td>
<td>42.9</td>
<td>22.7</td>
</tr>
</tbody>
</table>

TABLE IV

YEARS OF SCHOOL COMPLETED, RURAL POPULATION:
FORREST AND PERRY COUNTIES, 1960

<table>
<thead>
<tr>
<th>Subject</th>
<th>Forrest</th>
<th>Perry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Persons 25 years and over</td>
<td>6,951</td>
<td></td>
</tr>
<tr>
<td>No school completed</td>
<td>152</td>
<td>2.1</td>
</tr>
<tr>
<td>Elementary:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 4 years</td>
<td>821</td>
<td>11.6</td>
</tr>
<tr>
<td>5 and 6 years</td>
<td>783</td>
<td>11.2</td>
</tr>
<tr>
<td>7 years</td>
<td>497</td>
<td>7.1</td>
</tr>
<tr>
<td>8 years</td>
<td>1,035</td>
<td>14.8</td>
</tr>
<tr>
<td>High School:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 3 years</td>
<td>1,684</td>
<td>24.2</td>
</tr>
<tr>
<td>4 years or more</td>
<td>1,347</td>
<td>19.3</td>
</tr>
<tr>
<td>College:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 3 years</td>
<td>420</td>
<td>6.0</td>
</tr>
<tr>
<td>4 years or more</td>
<td>221</td>
<td>3.1</td>
</tr>
<tr>
<td>Median school years completed</td>
<td>9.4</td>
<td></td>
</tr>
</tbody>
</table>

In Table V data relevant to levels of living for the county are presented. The reader will note that Forrest County is below the national average in every category with one exception—housing units with air conditioning. Perry County, when compared with national averages item for item, compares even less favorably, with one exception—households with one automobile. These characteristics appear to be a function of the economic development of the entire area as well as the rural-urban ratio of the population.

VI. DEMOGRAPHIC FACTORS

The population density of Forrest County was, in 1960, 112 inhabitants per square mile. According to final counts of the 1960 Decennial Census some 52,722 persons were living in Forrest County in April of that year. In a ten-year period the population within the county had increased 17 per cent. This growth may be compared with the 18.5 per cent increase shown by the population of the United States during the same period. The population of the two rural beats (subdivisions) of the county however declined 18.2 per cent and 8.2 per cent respectively.

Forrest County is divided into five beats (minor civil divisions). All but 3,842 persons live in the three beats which include Hattiesburg and Petal. In 1960 the population of Hattiesburg was 34,789; Petal's (an adjoining unincorporated suburb) population was 4,007.

Perry County, which adjoins Forrest County, is very
TABLE V

OCCUPIED HOUSING UNITS WITH CONVENIENCES AND AUTOS, FOR THE UNITED STATES, MISSISSIPPI, FORREST AND PERRY COUNTIES, 1960

<table>
<thead>
<tr>
<th>Area</th>
<th>Clothes Washing Machine Per Cent</th>
<th>Air Conditioning Per Cent</th>
<th>TV Set Per Cent</th>
<th>Telephone Per Cent</th>
<th>Automobiles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>One Per Cent</td>
</tr>
<tr>
<td>United States</td>
<td>73.7</td>
<td>18.4</td>
<td>87.3</td>
<td>78.5</td>
<td>56.9</td>
</tr>
<tr>
<td>Mississippi</td>
<td>62.5</td>
<td>15.7</td>
<td>66.5</td>
<td>45.3</td>
<td>49.9</td>
</tr>
<tr>
<td>Forrest County</td>
<td>64.6</td>
<td>19.1</td>
<td>80.3</td>
<td>62.9</td>
<td>53.5</td>
</tr>
<tr>
<td>Perry County</td>
<td>67.8</td>
<td>1.1</td>
<td>64.7</td>
<td>22.1</td>
<td>59.3</td>
</tr>
</tbody>
</table>

### TABLE VI

**RURAL POPULATION, FAMILY INCOME, FORREST AND PERRY COUNTIES, 1959**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Forrest County</th>
<th>Perry County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per. Cent</td>
</tr>
<tr>
<td>Total Rural Population</td>
<td>13,726</td>
<td></td>
</tr>
<tr>
<td>Non-white Rural Population</td>
<td>3,433</td>
<td></td>
</tr>
<tr>
<td>All Families</td>
<td>3,294</td>
<td></td>
</tr>
<tr>
<td>Under $1,000</td>
<td>508</td>
<td>15.4</td>
</tr>
<tr>
<td>$1,000 to $1,999</td>
<td>536</td>
<td>16.2</td>
</tr>
<tr>
<td>$2,000 to $2,999</td>
<td>586</td>
<td>17.7</td>
</tr>
<tr>
<td>$3,000 to $3,999</td>
<td>452</td>
<td>13.7</td>
</tr>
<tr>
<td>$4,000 to $4,999</td>
<td>347</td>
<td>10.5</td>
</tr>
<tr>
<td>$5,000 to $5,999</td>
<td>339</td>
<td>10.2</td>
</tr>
<tr>
<td>$6,000 to $6,999</td>
<td>209</td>
<td>6.3</td>
</tr>
<tr>
<td>$7,000 to $7,999</td>
<td>128</td>
<td>3.8</td>
</tr>
<tr>
<td>$8,000 to $8,999</td>
<td>72</td>
<td>2.1</td>
</tr>
<tr>
<td>$9,000 to $9,999</td>
<td>26</td>
<td>0.7</td>
</tr>
<tr>
<td>$10,000 and over</td>
<td>91</td>
<td>2.7</td>
</tr>
<tr>
<td>Median Income:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Families</td>
<td>$2,093</td>
<td></td>
</tr>
<tr>
<td>Families and Unrelated Individuals</td>
<td>$1,842</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE VII**

**HOUSING UNITS, FOR THE UNITED STATES, MISSISSIPPI, FORREST AND PERRY COUNTIES, 1960**

<table>
<thead>
<tr>
<th>Area</th>
<th>Median Number of Rooms Per Unit</th>
<th>In One Unit Structures</th>
<th>In Structures Built in 1950 or Later</th>
<th>Sound With All Plumbing Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per Cent</td>
<td>Per Cent</td>
<td>Per Cent</td>
<td>Per Cent</td>
</tr>
<tr>
<td>United States</td>
<td>4.9</td>
<td>76.3</td>
<td>27.5</td>
<td>74.0</td>
</tr>
<tr>
<td>Mississippi</td>
<td>4.5</td>
<td>91.5</td>
<td>25.0</td>
<td>44.5</td>
</tr>
<tr>
<td>Forrest County</td>
<td>4.9</td>
<td>85.4</td>
<td>27.4</td>
<td>64.1</td>
</tr>
<tr>
<td>Perry County</td>
<td>4.8</td>
<td>97.4</td>
<td>23.9</td>
<td>32.9</td>
</tr>
</tbody>
</table>

### TABLE VIII

**INCOME IN 1959 OF FAMILIES, FOR THE UNITED STATES, MISSISSIPPI, FORREST AND PERRY COUNTIES**

<table>
<thead>
<tr>
<th>Area</th>
<th>Median Income Dollars</th>
<th>Under $3,000 Per Cent</th>
<th>$10,000 and Over Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>5,600</td>
<td>21.4</td>
<td>15.1</td>
</tr>
<tr>
<td>Mississippi</td>
<td>2,884</td>
<td>51.6</td>
<td>5.2</td>
</tr>
<tr>
<td>Forrest County</td>
<td>4,004</td>
<td>37.0</td>
<td>6.6</td>
</tr>
<tr>
<td>Perry County</td>
<td>2,484</td>
<td>58.7</td>
<td>3.2</td>
</tr>
</tbody>
</table>

### TABLE IX

SELECTED CHARACTERISTICS OF THE POPULATION, FOR THE UNITED STATES, MISSISSIPPI, FORREST AND PERRY COUNTIES, 1960

<table>
<thead>
<tr>
<th>Area</th>
<th>Non-White</th>
<th>Under 5 Years</th>
<th>21 Years and Over</th>
<th>65 Years and Over</th>
<th>Median Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>11.4</td>
<td>11.3</td>
<td>60.3</td>
<td>9.2</td>
<td>29.5</td>
</tr>
<tr>
<td>Mississippi</td>
<td>42.3</td>
<td>12.8</td>
<td>53.7</td>
<td>8.7</td>
<td>24.2</td>
</tr>
<tr>
<td>Forrest County</td>
<td>28.0</td>
<td>11.5</td>
<td>56.8</td>
<td>8.2</td>
<td>25.6</td>
</tr>
<tr>
<td>Perry County</td>
<td>27.6</td>
<td>11.6</td>
<td>53.2</td>
<td>9.2</td>
<td>24.3</td>
</tr>
</tbody>
</table>

### TABLE X

**POPULATION OF FORREST COUNTY, BY MINOR CIVIL DIVISION, 1940-1960**

<table>
<thead>
<tr>
<th>Area</th>
<th>1960 Number</th>
<th>Per Cent</th>
<th>1950 Number</th>
<th>Per Cent</th>
<th>1940 Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forrest</td>
<td>52,722</td>
<td>+17.0</td>
<td>45,055</td>
<td>+29.1</td>
<td>34,901</td>
</tr>
<tr>
<td>Beat 1</td>
<td>23,349</td>
<td>+21.1</td>
<td>19,388</td>
<td>48.7</td>
<td>12,970</td>
</tr>
<tr>
<td>Hattiesburg</td>
<td>22,866</td>
<td>+24.4</td>
<td>18,374</td>
<td>52.7</td>
<td>5,081</td>
</tr>
<tr>
<td>Beat 2</td>
<td>7,384</td>
<td>+25.1</td>
<td>5,902</td>
<td>16.2</td>
<td></td>
</tr>
<tr>
<td>Petal</td>
<td>3,355</td>
<td>+56.2</td>
<td>2,148</td>
<td></td>
<td>12,786</td>
</tr>
<tr>
<td>Beat 3</td>
<td>18,147</td>
<td>+17.5</td>
<td>15,443</td>
<td>21.6</td>
<td>8,996</td>
</tr>
<tr>
<td>Hattiesburg</td>
<td>12,123</td>
<td>9.2</td>
<td>11,100</td>
<td>.23.4</td>
<td>1,964</td>
</tr>
<tr>
<td>City</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beat 4</td>
<td>1,812</td>
<td>-18.2</td>
<td>2,215</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>Beat 5</td>
<td>2,030</td>
<td>-8.2</td>
<td>2,207</td>
<td>5.1</td>
<td></td>
</tr>
</tbody>
</table>

rural in character. Three small villages—Richton (population 1,089), New Augusta (population 275) and Beaumont (population 926)—are the most densely populated areas within the county. During the ten-year period from 1950 to 1960 the population of Perry County decreased 4 per cent. The population density within Perry County in 1960 was only 13 inhabitants per square mile.

According to the 1960 Census, there were 13,726 (or 26.3 per cent of the total population of the county) rural residents in Forrest County. Only 1,654 (or 3.1 per cent of the total population of the county), however, were classified as rural farm residents.

The non-white population was 28 per cent of the total population of the county. This percentage may be contrasted with the 42.3 per cent non-white population within the state as a whole. Approximately 3,400 Negroes now live in the rural areas of Forrest County.

Most of the residents of Forrest County are native-born and are of native parentage. In 1960 only 0.8 per cent of the population was foreign born and 1.4 per cent of the population was of foreign or mixed parentage.
TABLE XI

SELECTED CHARACTERISTICS OF THE POPULATION FOR THE
UNITED STATES, MISSISSIPPI, FORREST AND
PERRY COUNTIES, 1960

<table>
<thead>
<tr>
<th>Area</th>
<th>Land Area Square Miles</th>
<th>Total</th>
<th>Per Square Mile</th>
<th>Increase or Decrease (1950 to 1960)</th>
<th>Urban Per Cent</th>
<th>Rural Farm Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>3,548,974</td>
<td>179,323,175</td>
<td>50.5</td>
<td>18.5</td>
<td>69.9</td>
<td>7.5</td>
</tr>
<tr>
<td>Mississippi</td>
<td>47,223</td>
<td>2,178,141</td>
<td>46</td>
<td>--</td>
<td>37.7</td>
<td>24.9</td>
</tr>
<tr>
<td>Forrest County</td>
<td>469</td>
<td>52,722</td>
<td>112</td>
<td>17.0</td>
<td>74.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Perry County</td>
<td>653</td>
<td>8,745</td>
<td>13</td>
<td>- 4.0</td>
<td>--</td>
<td>23.4</td>
</tr>
</tbody>
</table>
VII. CULTURAL FACTORS

The cultural patterns observed in Forrest County are closely intertwined with the larger cultural milieu of the South. Actually, many of the characteristics associated with the South are those which are typical of rural social structures in other parts of the world. In most of these rural social structures there are tendencies toward social homogeneity, primary (or face-to-face) associations, relatively narrow ranges of social tolerance, primary means of social control, restricted social mobility, and a conservative outlook on life.

Conservatism

In rural social structures, once a way of behaving manages to become established, it is exceedingly difficult to uproot. Quite often a particular practice outlasts its...

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6Culture—The concept, culture, has been used in a variety of ways by various writers. Sociologists and anthropologists tend to agree that culture "embraces all modes of thought and behavior that are handed down by communicative interaction--i.e., by symbolic transmission--rather than genetic inheritance." Kingsley Davis, Human Society (New York: Macmillan Company, 1948), pp. 3, 4. Anthropologists tend to emphasize that culture includes both theory and practice, ideal patterns and behavioral patterns, statements of what ought to be and what is.

Sociologists tend to look upon culture in a slightly more restricted sense. For them culture denotes "the behavioral expectations (norms and values) shared by the members of social groups. It is toward these norms that the conforming social unit (person) directs his or her behavior." Donald R. South, Thomas Hansbrough, and Alvin L. Bertrand, op. cit., p. 20. These expectations include norms which define actions toward non-social objects (material things), ideas, etc.
usefulness and persists long after the factors that brought
into being have vanished. Perhaps it is because people tend
to feel comfortable with the old ways and the old things;
they are certainties in a world filled with uncertainties.
Whatever the cause, old ways and conservative approaches
have been pronounced in the Deep South.

Some of the ramifications of Southern conservatism
are documented and described by Alfred O. Hero, Jr., in The
Southerner and World Affairs. He points out that conserva-
tive thinking in the region has varied with the issue and
with the domestic and international context of the movement.
"Nevertheless," he contends, "Southerners taken together have
been more conservative than the rest of the country on most
public questions, and their conservative tendencies help to
account for some of their international postures." Hero
continues, "Interregional differences have been considerably
reduced when Southerners have been compared with Northerners
of similar education, occupation, and rural, urban or small-
town status, but somewhat greater conservatism has been
evident in the South on a number of issues even when these
factors have been controlled."

It is in respect to the conservative or traditional

\[7\] Alfred O. Hero, Jr., The Southerner and World Affairs
365 ff.

\[8\] Ibid.

\[9\] Ibid.
outlook of the region that the human problems of technological change are brought into focus. In certain places technological change has been met with fierce resistance because of conflict with traditional patterns of behavior.

Religion

Religion has a large part in the daily life of the South. It always has. In the Old South people believed in a personal God, sought his favor, and prayed with fervent conviction. Preachers carried the word with zeal and energy. Even among the more sedate congregations, religion had stronger flavor in the South than elsewhere. It still does.

In Forrest County the majority of rural inhabitants actively participate in religious services. All of the rural churches are Protestant; the majority are Baptist, though Methodist, Presbyterian, and Pentecostal churches are to be found. There are three varieties of Baptist churches in the country: Southern Baptist Churches, Missionary Baptist Churches (commonly known as "Landmark" churches; affiliated with the North America Baptist Association), and Primitive Baptist churches (commonly called "Hardshell" churches).

Parochial Loyalties

Insistence on States' Rights, based on traditional interpretations of the United States Constitution, suspicion of the federal government, and opposition to federal control has been intensified in recent years. This has been due,
primarily, to enactment and implementation of Civil Rights legislation. Reaction has ranged from pessimism to fierce resistance. This climate of public opinion has not served to facilitate compliance with other federal programs.

Race Relations

Sociological analysis of opinion polls and attitude surveys must lead to the conclusion that throughout the United States, and particularly in the South, the social structure and normative order support the inferior social status of the Negro. The many desegregation decisions of the federal judiciary notwithstanding, many norms in Mississippi confirm this inferior position.

Within this cultural framework the white liberal who has reached the conclusion that the system should change must be regarded as a deviant. This is because he does not accept one important aspect of his culture as natural and right. Myrdal's characterization of the southern liberal group is still an apt one: "It is mostly a fraternity of individuals with independent minds, usually living in and adjusting to, an uncongenial social surrounding." There are recent indications, however, that the so-called "moderates" on the race issue are becoming more widely accepted and are speaking out


more than before. One indication has been the peaceful desegregation of the public schools of Hattiesburg, of the University of Southern Mississippi, and of William Carey College.

Law and Order

It was learned through participant observation that many residents of the area are convinced that the federal government can and will punish those individuals who violate federal laws. The power of the government is therefore respected even though some federal programs are regarded with antipathy. Many persons feel, and perhaps rightly so, that if they should be apprehended while violating a federal law, they would be shown little or no mercy by the courts.

Dislike of being "pushed around" is a part of the culture of south Mississippi. Sometimes this feeling has been carried to the extreme. Two places in Mississippi have in fact achieved a measure of notoriety for resistance to outside force—Sullivan's Hollow and Pistol Ridge. Pistol Ridge was one of the neighborhoods studied in this research.

During the period of Prohibition, residents claim that law enforcement officials were afraid to enter Pistol Ridge. The area became a haven for law violators who were wanted elsewhere. Moonshining\textsuperscript{12} and cock fighting abounded.

\textsuperscript{12}Apparently, some illegal activities have continued. On Wednesday night, March 23, 1966, agents of the U. S. Alcohol and Tobacco Tax Division raided a large moonshine still in the woods of the Pistol Ridge area of Lamar County. Agents
Informants report that lawmen would remain outside the bounds of the area hopefully waiting to apprehend an occasional criminal.

These stories have doubtless been exaggerated. Certainly many of the attitudes and behavior patterns traditionally associated with the name Pistol Ridge are not typical for the region. Several residents in adjacent neighborhoods made it clear to interviewers that they did not want their neighborhoods to be confused with Pistol Ridge. Even so, there does persist a hostility toward certain law enforcement officials. One elderly man interviewed by the writer stated, "If you are with the federal government, I don't want anything to do with you."

Patriotism

Southerners, especially Mississippians, feel a patriotism for their region and for their state to a degree unknown in other regions of the United States. The proud display of the Rebel flag and the enthusiastic cheers that accompany the playing of Dixie are symbolic of this deep feeling of loyalty. Civil War history is still an important topic in the Deep South.

Furthermore, many persons in the region manifest attitudes typical for minority groups in their emotional attach-

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said the still "was undoubtedly one of the largest ever seized in south Mississippi." Seven men were arrested. Hattisburg American, March 24, 1966.
ment to the South and to Mississippi. A college freshman from Mississippi recently told this writer that he planned to "give his life to Mississippi because it had been mistreated by the rest of the nation." Many indeed feel that the region has been the "whipping boy" for the rest of the nation. They feel they are too often misunderstood by persons outside the South. The mass media, generally, and newsmen in particular, are disliked for presenting a picture which many Southerners feel has been distorted.

Cooperation and Friendship

Strong bonds of cooperation exist between the inhabitants of the rural neighborhoods. This was certainly the case in the Brooklyn-Carnes area. Through the years the friendship ties had been strengthened through intermarriage. A number of young people had married and remained in the neighborhoods. Practically none of the respondents interviewed indicated they wished to leave the area; even those who were in abject poverty revealed no desire to move elsewhere. When asked why, respondents replied: "This is home," "My relatives are here," "The people are friendly," or "Where would I go?"

People of the rural South are generally very friendly even to persons who are perceived as outsiders. Only when they suspect the newcomer has ulterior motives are they unfriendly. It is a Southern norm that everyone speaks and is cordial at the beginning of an acquaintance. If, over a
period of time, the newcomer is genuinely liked, the acquaint-
ance develops into warm friendship. This pattern may be con-
trasted with the pattern found in some areas in which a new-
comer is typically treated with calculated reserve by the
residents.

Residents of Forrest County were most cooperative
with the interviewers. There were only three refusals during
the entire study.

Forestry Attitudes

Perhaps the best way to understand how the residents
feel about their forests is to begin with a history of the
pioneers in the county. The early settlers who settled in
the wide expanses of pine timber prized the "elbow room"
which the area provided them. They tended to be suspicious
of intruders and maintained their rights by force whenever
necessary.

Cattle, brought by the early settlers, were allowed
to range at will in the piney woods. Good, nourishing
grasses were available at first in plentiful supply. As
the cattle herds increased in number, the desirable grass and
reeds that sustained the cattle through the winter months
began to dwindle. Sheep were also introduced, and with their
type of grazing, shortened the summer grazing season and
decreased the nourishing grasses. In order to compensate
for the over-grazing, cattle and sheep owners developed the
practice of winter burning the woods in order to hasten the
early spring greening of the grasses. The vicious cycle of annual burning to green up grasses depleted with each burn much of the desirable grasses. Many of the cattleowners moved to new locations, but they carried their burning and overgrazing customs with them and again depleted the new ranges. Thus, burning to green up the woods and ranges, mostly public land, was not only developed but also transported across the entire area.

Forestry practices of the early 1900's tended to encourage and stimulate this practice. Hundreds of acres of virgin timberland were cut over—left bare and desolate—with only an occasional scrub pine to give variety to an otherwise bleak landscape. When the lumber companies moved their offices away, veritable dynasties were built up by cattlemen and sheepmen. Often they did not own a single acre of the cut-over lands yet they became virtual lords of the land. Grazing rights on thousands of acres of stumped marked cutovers were acquired by an unwritten code and many nesters became wealthy. It was no wonder. Cattle were grazed year-long on the free range, poor as it was, but every cent of income derived from sale of calves was profit. Every year they added more acreage to their empires and every year they burned the stubble off "to green up" the grass. The fact that they often burned up and consequently hindered tree reproduction was of no concern to them.

It was natural that when the forest landowner returned during the rebirth of forestry in the South, a war between
foresters and stockmen was inevitable. Foresters started planting trees and stockmen balked. Various ingenious devices such as the "slow match" were employed by arsonists.

Some of the woods burners rationalized their activities by asserting that their burning actually helped the timber to grow tall and knot-free. They maintained that fires every spring prevented major fires from occurring because the undergrowth was burned up. Another of their assertions was that fire destroyed nuisances and dangers such as ticks and rattlesnakes. Ashley L. Schiff's *Fire and Water* documents the fact that some of their arguments did have an element of truth in them. This fact has tended to make the task of communicating fire prevention messages more difficult.

Some woods burners, however, do not burn for economic advantage. Spite against the big landowner is one of the major reasons for incendiarism and is sometimes the excuse advanced by the woods burners themselves. The "ne'er-do-well" of the Southern backwoods is resentful because someone has enough money to buy a large tract of land in his country. Furthermore, the big landowners are usually outsiders and often Yankees. In some communities, especially near the Gulf Coast, the practice of "burning the big man" has become a

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Woods burners are not choosy about who they burn, just as long as it is a big landowner. And who owns more land than the government? Thus, many fires have occurred in National Forests. In 1953 a conflagration consumed 5,000 acres of the Desoto National Forest. On a windy day four men who were "all likkered up" started out at noon a few miles north of Brooklyn and actually set a thousand fires over a distance of forty miles before they were caught. The damage was estimated at more than fifty thousand dollars.  

Almost any forester of the region can list a dozen motives for burning the woods. These vary often by locality. A few selected ones are as follows: (1) to improve the range for domestic stock; (2) to run out game for easy shooting; (3) for spite—to get even with some person (large landowner, state or federal government); (4) to eliminate a feeling of isolation—to open up woods for better view of neighbors; (5) to burn out moonshiners; (6) to draw firefighters so a moonshine still can be discovered; (7) to break the law; (8) for "fun" during periods of drunkenness; (9) to open up woods for ease in travel and hunting; (10) for mischief—usually by teen-agers; (11) to protect fences.

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15 Ibid.
structures, and crops from wild fire; (12) for game management purposes.

Some of the woods burners feel the timber is practically worthless and do not hesitate to set it on fire. For example, pecan and pine knot pickers set brush fires in order to more easily gather pecans and knots. Some even burn the woods in order to obtain fishing worms. In order to do this, a wooden stake is placed in the ground and then a stick is rubbed over the post causing a vibration which brings the worms to the surface. This practice would not be unlawful in itself, but the individuals burn off the area first to make it easier to see the worms.

Burned woods are recognized by many rural people as clean woods. A fear of the woods complex is often developed at an early age. Parents tell their young children not to go into the woods because it is filled with all kinds of wild and ferocious animals, snakes, and spooks. Then too, many rural people believe that woods growth represents lands that are not being used. Used lands for them is land that grows agricultural crops—usually an annual crop. Trees are not looked upon as a crop to be grown and harvested.

This cluster of attitudes has been referred to by foresters as "the burning environment." The manifestations of this phenomenon have been enumerated as follows:

This burning environment is apparent now throughout the entire state. It shows itself in the many purposes for which uncontrolled fire is used. It shows itself when the careless burner allows his fire to escape. It shows itself in the near annual burning of
pastures and ranges rather than improving them otherwise. It shows itself when the incendiaryist sets fire to the land of another. It shows itself when the bird hunter curses the pines as a covey flies into them, disregarding the food and shelter the pine provide the birds. It shows itself in land and right-of-way clearing. It shows itself at the site of every forest fire that was allowed to burn until the fire suppression crews arrived even though local people could easily have suppressed it. Any lack of interest in forest land is usually the direct result of the fear and frustration of early childhood and in later years. This environment is firmly entrenched and is the principal force that directs the careless and wanton woods burner. It is the force that fire preventers must understand and set as their prevention target.16

VIII. SUMMARY

The picture drawn in this chapter of the study setting is that of a unique social complex of old ways standing against technological innovation. Within this social complex the people of Carnes and Brooklyn live out their days.

Fire prevention messages, so vitally important to the sender, are but one small part of these peoples' environment—one small element impinging upon their existence. Thus, their way of life with its demands, opportunities, and expectations, must be grasped before the perception-retention of fire prevention messages can be fitted into the picture. Else, the importance of this communication process for the intended audience may be unduly emphasized and the audience's reaction to it misunderstood.

Knowledge of the research area therefore preceded the next step in the investigation—a selection of appropriate techniques. The procedures devised for testing the research hypotheses and the steps followed in implementing them are set forth in the following chapter.
CHAPTER IV
PROCEDURES AND RESEARCH TECHNIQUES UTILIZED
IN THE STUDY

In this chapter there is a presentation of the research techniques used in gathering and analyzing the data upon which the study was based. An effort was made to use methods which would, insofar as possible, give an accurate interpretation of the problem.

I. THE INTERVIEW SCHEDULE

An interview schedule of 49 items was developed which included three types of questions: (1) Eighteen items were designed for determining relevant socio-economic characteristics of the respondents and their families. (2) Eight items provided a measure of attitudes presumed to have a bearing upon an individual's perception and recall of fire prevention messages. (3) Twenty-three items were related to types of fire prevention messages the forest publics saw and heard; these were intended for use in determining which media were most effective in reaching the local inhabitants. Included in this latter group were items related to an experiment in perception-recall. This experiment is described in detail in a succeeding section.

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The first group of items were standard ones that had been used many times in Mississippi to determine socio-economic characteristics of rural populations. Most of them were utilized in the first fire prevention study conducted by Mississippi State University in 1963.¹

Items included in the second group were designed to provide information relevant to perception and recall. Items such as Nos. 8, 9, 10, 16, 20, 21, and 22 provided a means of measuring the influence of individual predispositions and small group norms upon an individual's perception and recall. Three items (20, 21, 22), for example, were designed to measure the respondents' attitudes toward punishment of arsonists thereby making possible an accurate assessment of the character and "strength" of shared values in communities and the influence of public opinion upon woods behavior.

Initially a plan was devised whereby residents of the area would be mailed fire prevention materials. Every head of household was to have received an identical packet containing fire prevention information and materials aimed at promoting positive attitudes plus several factual statements, the knowledge of which could have been tested in forthcoming interviews. Questions 33–37 were designed with this experi-

ment in mind. The purpose of the design was to test the hypothesis that persons in the Carnes community tend to recall proportionately less of the information contained in the packet or distort it more than those in the Brooklyn community.

Administrative procedures were followed in bringing the research instrument into its final form. Certain alterations and omissions were made in the process. The research interview schedule, as finally approved by the U.S. Bureau of the Budget, is included in the Appendix.

In its final form this research instrument consisted of structured and open-ended questions designed to relate to demographic, attitudinal, and socio-economic variables. Additionally, visual aids were incorporated into the instrument for the purpose of measuring perception-recall rates and for ranking the respondents' level of recognition of a fire prevention symbol (Smokey the Bear). The questions were chosen in order to elicit responses pertinent to subjects such as punishment of woods burners, ownership of forest land by large corporations, the image of forestry personnel, and levels of knowledge about messages employed by fire control agencies.

In completing the schedule, a minimum of thirty minutes was required. Due to the tense political climate prevailing in the area at the time and the criminal taint of forest fires, the schedule was constructed and administered as a general survey relating to the problems of conservation
and rural life.

II. SOURCES OF DATA

A cross-sectional research design was selected for the study and interviews making use of the research instrument provided the major portion of research data. In addition, conferences with residents of other areas, with forestry personnel, and with other "knowledgeables" of the county contributed to the fund of information.

A total of 209 interviews were conducted—104 in Carnes and 105 in Brooklyn. Heads of households were first sought, but when this was not possible, the interview schedule was completed on the basis of information provided by an alternate adult (usually a wife or parent). Only one interview per household was permitted.

III. SELECTION OF THE SAMPLE

The two study communities were located in an area where there was acreage protected by both federal, state, and private fire control agencies. About 240 families resided in Brooklyn; 230 in Carnes. Superficially the two communities, located less than five miles apart, appeared to be similar. One important difference was that Brooklyn's annual fire rate was extremely low whereas Carnes' was extremely high.

A decision was made to obtain a minimum of two hundred interviews—one hundred from each of the communities. This number represented approximately 50 per cent of the occupied
residences within the two communities. The possibility of eventual sociogram analysis, whereby interaction patterns would be traced, partially dictated the choice of this relatively high number of interviews. Even more important, this relatively high number of interviews made for a more adequate sample.²

Official county highway maps (1963) were available which indicated the location of stores, schools, churches, farm units, and dwellings. These maps were found to be inaccurate in certain respects due primarily to construction of roads and buildings completed since the last map revision. A member of the research team, Larry Doolittle, from Mississippi State University, and personnel of the United States Forest Service, Tony Altobellis and Leroy Schilling, cooperated in making the necessary corrections. Also, they provided a list of names of the residents of the two communities. This list constituted the sampling frame or universe.

The households were numbered and 100 were chosen randomly for the Carnes area. The same procedure was followed for the Brooklyn³ area with one variation. One


³There were four households within the sample in which family members were employed by the U. S. Forest Service. All resided in the Brooklyn community. The interview schedules from these households were singled out to see if these subjects' responses biased the results. The conclusion was that their responses did not bias the results.
section of the Brooklyn area was designated as a "congested area" on the official highway map. Names were not available for families living within this area. Thus, every third residence was chosen within the "congested area" while those outside the area were randomly chosen as in the Carnes community. The number of residences selected within the circle was determined on the basis of the ratio between the total number within and without the "congested area."  

When the field study was conducted nine interviews were collected in addition to the 200 originally specified. These additional interviews included four from Brooklyn and five from Carnes.

IV. TECHNIQUES OF INVESTIGATION

The research instrument was pretested in Livingston Parish, Louisiana, in May, 1965. This parish was chosen on the basis that it was similar to the Brooklyn-Carnes area, Mississippi in several respects.

Livingston Parish is largely rural, is located adjacent to a regional center (Baton Rouge), and there are extensive woodland tracts within the parish which are protected by state and private foresters. In addition there are several communities with relatively high rates of incendiary fires. There is, however, no land protected by the U. S. Forest

Service within Livingston Parish.

Prior to the pretest it had been felt that some difficulty might be experienced if the subject of woods burning were introduced directly. This, however, did not prove to be a major problem even though the community chosen for the pretest (Verdun) was noted for its high rate of woods burning. Consequently, only slight revisions in the schedule were required before it was administered in the field study.

Actual field work in the Brooklyn-Carnes area began in October, 1965. Since October was a month of low fire occurrence, it was possible to avoid contacts with residents during the period of high forest fire incidence. This factor probably tended to minimize defense reactions on the part of the interviewees which would have been theoretically expected had the interviews been conducted during the months of high forest fire activity.

Four interviewers were hired from the Hattiesburg area. Two were seniors at William Carey College and two were graduate students at the University of Southern Mississippi. Sessions were held to train the interviewers in contacting the rural people diplomatically and in administering the research instrument in an expeditious and uniform manner.

Data were collected within the shortest span of time possible within each community. This served to reduce the possibility of bias being introduced into the data resulting from respondents' discussion of the investigation.

The writer participated in the field work in the
field work in the capacity of interviewing respondents and supervising the work of other interviewers. Interviewers were provided with a check sheet on which pertinent remarks relating to the over-all nature of the interviews were written. The schedules were reviewed daily for mistakes and/or omissions, and the check sheets were used in the final evaluation.

The items constructed for use with the packet of fire prevention materials (Nos. 33-37) were approved by the Bureau of the Budget but were not used in the actual interviewing. The decision to omit these items was prompted primarily by the fact that such a mailout was felt to be premature in view of the projected sequence of stages in the Pilot Project. (A later stage of the Pilot Project is to involve the introduction of a new fire prevention program based on findings from the present stage of the Pilot Project.)

Information relevant to the respondents' class identifications and self conceptions was desired but was not formally included within the research instrument. Interviewers, however, asked each respondent if he was frequently called upon for advice or information. They also asked respondents to indicate which social class they would choose if they were asked to give a name for their social class. Respondents were then requested to indicate a preference for either "upper, upper middle, lower middle, lower, or working class." These responses were noted and tabulated for final evaluation.
Visual aids were utilized in measuring levels of perception-recall and in determining the extent to which the fire prevention symbol (Smokey the Bear) was recognized. The first of these objectives was undertaken in the following manner. Four identical fire prevention posters (64-CFFP-4A) were placed at conspicuous places in the area—two in each community. This operation was carried out by forestry personnel two weeks prior to the beginning of the interviewing. Precautions were taken to make this preparation appear to residents to be merely a routine task of the Forest Service. Conspicuous sites were chosen so as to make feasible the assumption that every individual within the respective communities would have seen the poster prior to his interview.

When the interviewing began, respondents were asked "Are there any fire prevention signs or posters around here?" They then were asked, "What does the sign say?" "Is there a picture on the sign (or poster)?"

If the previous questions were answered affirmatively, the respondent was then asked, "Would you describe the picture on the sign (or poster)?" Following the respondent's description the interviewer displayed photographs of four fire prevention posters, one of which was the correct choice. Then the respondent was asked, "Have you seen one of these in the neighborhood or not?" Upon replying, the respondent was then asked to identify the one he had seen. Interviewers then wrote the results of the test on the schedule form.

It should be noted that this experiment provided the
subject with an opportunity to interpret the sign and perhaps distort what he had seen, but it also afforded the researcher an objective test to see whether or not the subject could correctly choose the poster he claimed to have observed. Thus subjective and objective aspects of perception were incorporated into the experimental design.

A variation of the same experiment was conducted at the Brooklyn Agricultural High School during the time that the field work was being conducted. Prior to the test, six copies of the same poster were placed along the hallways of the school. (In this experiment it was safer to make the assumption that all the subjects had seen the poster since the posters were prominently displayed.) The principal of the school put them in place without disclosing the fact that they were intended as one phase of an experiment.

On the day of the test all 53 ninth graders were brought to a separate room and were asked to fill out a brief questionnaire (included in the Appendix). Included in the group were 16 students from Brooklyn and 15 students from Carnes. One by one the students were shown the pictures of the four posters and were asked to choose the one they had seen. Thus, in the school study, though the total number was considerably smaller, more careful controls were possible.

Visual aids were utilized in yet another way. Five organizational symbols, widely employed in national advertising, were photographically reproduced so that names or other clues as to their identity were removed. A photograph
of Smokey the Bear was also prepared in the same manner.

During each interview, the subject was told: "I have pictures of some symbols which we often see. What do they stand for?" Then the subject was shown the photographs. He was scored on the basis of his correct identifications. This experiment had a three-fold objective: (1) to learn the extent to which Smokey the Bear was recognized in comparison with other widely used symbols. (2) To provide some measure of the individual respondent's over-all alertness. The assumption was made that a subject with a low score would either be generally unobservant or out of contact with the larger society. Thus, this test was designed to supplement the perception-recall experiment by enabling the researcher to control for alertness as a relevant variable. The hypothesis that perception-recall rates resulted only from high levels of individual alertness could therefore be tested. (3) To probe, to some extent, what the Smokey the Bear symbol meant to respondents.

In order to pursue the goals set for this study, sheer description of the phenomenon was not sufficient. Description, involving enumeration of such details as the number of radios, television sets, and magazine subscribers, was basic. Just as important, however, was explanation and evaluation.

Explanation was given the form of testing specific hypotheses related to a larger theory having to do with determinants of a phenomenon (i.e., differential observation of fire prevention messages). Additionally, the research was
evaluative in nature; that is, certain factors (such as income and education) were studied for their respective influences upon the phenomenon.

Data necessary for this kind of analysis is difficult to get at. In-depth analysis, though often more desirable than description and enumeration, is more susceptible to the vicissitudes of the researcher's biases.

If the study had been limited to enumerative data for use as indicants, definite limitations would have been placed on the research design. The result could well have been oversimplification or premature closure. In order to achieve the precision afforded, by systematic enumeration, while at the same time avoiding the limitations imposed by this method of handling properties, provision was made for explanatory supplements. This was accomplished in two ways.

First, interviewers were instructed to write down any information about the respondent or the interviewing situation whenever it was felt this information might contribute to a better understanding of the elicited responses of the individual. At the outset of the field work, interviewers had been briefed about the aims of the study so as to alert them to the kinds of information which might prove to be useful.

It will be seen in succeeding chapters that results justified the effort. A considerable amount of information was recorded by the interviewers which was not specifically required in completing all of the items on the interview
schedule. Much of this information proved to be significant. They noted the characteristics of the physical surroundings, whether the home was ill-kept, whether the respondent was suspicious or cooperative. They also recorded explanations which the individuals volunteered after answering structured items.

Second, nineteen open-ended items were a part of the interview schedule. Interviewers were instructed to request that the subject express his true feelings even though they might be construed as critical of established practices. This approach contributed to rapport between the interviewer and respondent. The fact that a number of responses were unusually frank—often specifically so—tends to validate this assumption. An early concern that these items could contribute only an array of random responses was not supported by the results.

V. SCALING TECHNIQUES

Scalogram analysis was utilized in order to determine if certain items on the interview schedule constituted a scale. In practice, scalogram analysis can perhaps be most accurately described as a procedure for evaluating sets of statements or existing scales to determine whether or not they meet the requirements of a particular kind of scale, set forth in some detail by Guttman.5

If a set of statements with a common content is to constitute a Guttman scale, then respondents with a higher score than another respondent on the same set of statements must also rank just as high or higher on every statement in the set as the other individual. In regard to attitude statements this means that persons who answer a given question favorably all have higher ranks than persons who answer the same question unfavorably. "From a respondent's rank or scale score we know exactly which items he endorsed. Thus we can say that the response to any item provides a definition of the respondent's attitude."\(^6\) The quality of being able to reproduce the responses to each item when only the total score is known is called reproducibility—the crucial test as to whether or not a set of items constitutes a scale in the Guttman sense.

Since perfect reproducibility is not encountered in practice, it is important to measure the degree of reproducibility present for a given set of attitudinal responses. This is accomplished by making cutting points which mark the place in the rank order of respondents where the usual response shifts from one category to the other. The errors for each category are then totaled at the bottom of the table. The coefficient of reproducibility is then determined by means of expressing the total number of errors as a proportion of the total number of responses and subtracting this

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\(^6\)Stouffer, et al., op. cit., p. 5.
VI. ANALYTICAL PROCEDURES AND STATISTICAL TESTS

The data secured during the field study were punched on IBM cards and processed in the facilities at the Louisiana State University Computing Center for tabulation of frequency and percentage distributions. Answers indicated on the schedules in response to the unstructured questions were recorded on a master sheet for review. Following the review, various categories were developed and coded and into these categories identical responses were tabulated.

Frequency distribution by number and percentages of respondents by communities were used in analyzing the data pertaining to the characteristics of respondents and their attitudes and opinions toward forestry and forest fires. Furthermore, the study yielded a considerable amount of data on the use and effectiveness of various media and specific messages.

The tabulated data were analyzed to test the research hypotheses. In order to reach an objective decision as to whether the hypotheses were confirmed by the data collected, the following procedure was employed for either accepting or rejecting the hypothesis:

1. The null hypothesis (H₀) was stated.

2. A statistical test with its associated statistical model was chosen in order to test H₀. The statistical test chosen was determined by the nature of the population and
the manner of sampling.

The Chi Square One Sample Test lent itself to certain phases of the research. (This particular statistical technique is of the goodness-of-fit type in that it is used to test whether a significant difference exists between an observed number and an expected number.)

3. The significance level and the sample size was specified.

4. The sampling distribution of the statistical test under $H_0$ was found.

5. Upon the basis of Nos. 2, 3, and 4 the region of rejection was defined.

6. The value of the statistical test was then computed using the data obtained from the sample. Whenever the value obtained was in the region of rejection, the decision was to reject the null hypothesis ($H_0$).

Since it is true that a difference may be statistically significant without being significant in any other sense, a measure of the strength of certain relationships was desired. Thus, whenever it was appropriate to do so, the measure of association known as Pearson's contingency coefficient $C$ was employed.\(^7\)

CHAPTER V

RESPONDENTS' SOURCES OF FIRE PREVENTION INFORMATION

One of the original objectives of this study was "to obtain information relative to the number of sources of messages (television, radio, newspaper, and personal influence) and symbols (Smokey the Bear) employed by fire control agencies which are seen and heard by persons living in two South Mississippi rural communities." This information is reported in this chapter. Information of this kind was basic to subsequent testing of research hypotheses. Thus was made possible an analysis of differential responses to fire prevention messages and their significance.

I. A SOCIOLOGICAL APPROACH TO INFORMATION SOURCES AND FEEDBACK

The phenomenon of message sending and receiving is partly psychological since it involves individual organized psychological states. But more is involved. Communication must be viewed as interpersonal and, when so viewed, the emphasis shifts to relationships between sender and receiver.

A sender (of messages) is likely to be frustrated if his message has not been received as intended. Likewise, the receiver is likely to be frustrated if he discovers that
the information he has been receiving is quite different from that which the transmitter intended to convey. The crucial test of communication then is feedback, that is, the degree to which the behavior response of the receiver corresponds to that called for by the communicator.

Whenever a person communicates at the face-to-face level, he may be reasonably certain that his message has been received. If uncertainty exists it is usually because the communicator is uncertain about how his message was perceived and interpreted; not whether it was received. When mass media are used, this cannot be assumed. The individuals for whom the message was intended may not have been in a communication receiving situation. They may not have heard or seen the message. To paraphrase the ancient philosophical question, the tree may have fallen in the forest but no one was there to hear.

The mass communication researcher must begin by finding out what media, if any, the potential target audience listens to; and, if a particular message was transmitted, what factors were involved in the reception of the message. The basic question involves feedback, but the investigation begins by asking whether or not the message was received. Little further analysis is possible until the answer to this question is known.

No attempt is made here to define "communication situation" but it is usually understood to indicate: (1) the immediate source of communication; (2) the medium through
which it is transmitted; (3) the content of the communication itself; and (4) certain miscellaneous aspects of the social situation in which the communication is received.

II. CARNES AND BROOKLYN: CONTACTS WITH INFORMATION SOURCES

Interviewers engaged in the present study found that virtually every individual in the two communities had some contact with the mass media. Their findings corroborate the U.S. Census data with regard to the number of television receivers owned. This writer feels that their findings also tend to confirm the fact that the mass media are becoming increasingly important in the interrelationship between the rural South and the emerging mass society.

Radio and Television

According to Census data (1960), 80.3 per cent of the occupied housing units in Forrest County were equipped with a television set. This percentage may be contrasted with the following census data: (1) The United States—87.3 per cent; (2) the State of Mississippi—66.5 per cent; (3) Perry County (the adjoining county)—64.7 per cent.

In the present study 82.2 per cent of the occupied housing units in the sample were equipped with television

1"Information source" is used to refer to people or mass media, including magazines, newspapers, bulletins, radio, television, agricultural agencies, college extension services, foresters, salesmen, etc.
receivers in working order. There were an additional 2.2 per cent of households with television receivers which were broken or not in working order.

The number of television receivers owned varied with respect to the two communities, but not to any significant degree. In Carnes, 80.7 per cent of the heads of households reported owning a television set in working order whereas the corresponding figure for Brooklyn was 83.7 per cent. The figures for radio ownership were approximately the same, but with a slightly higher differential between the two communities. In Carnes, 81.8 per cent of the respondents reported owning a radio receiver in satisfactory working order; in Brooklyn the corresponding percentage was 87.5 per cent.

It should be noted that several families had no obvious regular contact with the mass media. There were 19 households in the Carnes sample with no radio reported, 20 with no television receiver; there were 13 households in the Brooklyn sample with no radio and 17 with no television receiver reported. There was some overlap, that is, some households had a television receiver but no radio and vice versa, but there were, nonetheless, 15 households with neither. As one might expect, the respondents who indicated they owned neither a radio nor television receiver tended to be drawn from the lower socio-economic strata.

Race did not appear to be a factor in radio-television ownership; all three Negro households contacted reported both radio and television receiver ownership (one of the Negro
respondents, however, indicated that he owned both a television set and a radio but that his television set had been broken for three months and the radio had been broken for about six months).

**Characteristics of the Non-Owners**

The respondents who indicated they had neither a radio nor television in working order were singled out for special analysis. These fifteen respondents represented slightly less than 7 per cent of the total sample; thus, it can be deduced that about 94.4 per cent of the families in the two communities had some regular contact with the mass media. (This percentage includes three radio/TV non-owner families who received magazines or newspapers regularly.)

Ten of these households were located in Carnes; five in Brooklyn. Most of the respondents were over 40 years of age, in fact, only one was less than 35 years of age. Ten respondents indicated their family income was less than $2,000 during the previous year; all of the respondents indicated a total family income of less than $5,000 per year.

The procedure described in Chapter IV was followed in order to obtain data relevant to self conception. The non-owners of radio/TV tended to perceive of themselves as "working" class individuals. Six of the respondents chose this particular response, two respondents indicated "lower middle" class, three respondents indicated "upper middle" class, two chose "middle" class, while the remainder chose "upper," and "first" class for their responses (one each).
TABLE XII
SELECTED CHARACTERISTICS OF NON-OWNERS\(^a\)
OF RADIO AND TV RECEIVERS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Class Identification:</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>0</td>
</tr>
<tr>
<td>Working</td>
<td>6</td>
</tr>
<tr>
<td>Lower Middle</td>
<td>2</td>
</tr>
<tr>
<td>Middle</td>
<td>2</td>
</tr>
<tr>
<td>Upper Middle</td>
<td>3</td>
</tr>
<tr>
<td>Upper</td>
<td>1</td>
</tr>
<tr>
<td>First</td>
<td>1</td>
</tr>
<tr>
<td><strong>Newspaper:</strong></td>
<td></td>
</tr>
<tr>
<td>Subscriber—Yes</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td><strong>Magazines:</strong></td>
<td></td>
</tr>
<tr>
<td>Subscriber—Yes</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td><strong>Age:</strong></td>
<td></td>
</tr>
<tr>
<td>1. (19 or younger)</td>
<td>0</td>
</tr>
<tr>
<td>2. (20-24)</td>
<td>0</td>
</tr>
<tr>
<td>3. (25-29)</td>
<td>0</td>
</tr>
<tr>
<td>4. (30-34)</td>
<td>1</td>
</tr>
<tr>
<td>5. (35-39)</td>
<td>0</td>
</tr>
<tr>
<td>6. (40-49)</td>
<td>3</td>
</tr>
<tr>
<td>7. (50-59)</td>
<td>3</td>
</tr>
<tr>
<td>8. (60-69)</td>
<td>3</td>
</tr>
<tr>
<td>9. (70 or older)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Income:</strong></td>
<td></td>
</tr>
<tr>
<td>0. (Don't know or, no response)</td>
<td>1</td>
</tr>
<tr>
<td>1. (less than $2,000)</td>
<td>10</td>
</tr>
<tr>
<td>2. ($2,000-2,999)</td>
<td>2</td>
</tr>
<tr>
<td>3. ($3,000-3,999)</td>
<td>2</td>
</tr>
<tr>
<td>4. ($5,000-6,999)</td>
<td>0</td>
</tr>
<tr>
<td>5. (Over $7,000)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Schooling Attainment:</strong></td>
<td>Head</td>
</tr>
<tr>
<td>1. None</td>
<td>1</td>
</tr>
<tr>
<td>2. 1 - 3 grades</td>
<td>1</td>
</tr>
<tr>
<td>3. 4 - 6 grades</td>
<td>2</td>
</tr>
<tr>
<td>4. 7 - 9 grades</td>
<td>7</td>
</tr>
<tr>
<td>5. 10-12 grades</td>
<td>4</td>
</tr>
<tr>
<td>6. College, 1 or less</td>
<td>--</td>
</tr>
<tr>
<td>7. College, 2-3 years</td>
<td>--</td>
</tr>
<tr>
<td>8. College, graduated</td>
<td>--</td>
</tr>
<tr>
<td>9. Graduate work</td>
<td>--</td>
</tr>
</tbody>
</table>

\(^a\)Figures include owners reporting receivers broken one month or longer.
The educational attainment of these respondents was minimal. One individual had no formal education at all. Eleven of the fifteen heads of households had completed less than ten years of schooling. The majority, however, had completed at least seven years of schooling. One housewife in this category reported having completed four years of college!

The characteristics just enumerated tell us something about the individuals who have no obvious regular contact with radio, television, or the printed page. On the basis of this information, it seems safe to assume that these persons, if they are reached by fire prevention messages, are reached by means of word-of-mouth communication. (Posters, signs, letters, and handbills, however, are potential media for contact with most of them.) This writer further assumes that their community orientation is almost totally inward; that is, they are localites as distinguished from cosmopolites. The opinions they hold result almost exclusively from interaction with members of their own community, not from contact with the outside world.

Religious factors appeared to be relevant in several of the individual responses to inquiries about the ownership of radio/television receivers and regular reading of, and subscriptions to, magazines and newspapers. Several asserted that they thought magazines and newspapers were "sinful." There was, however, no evidence of organized religious opposition to the mass media. Apparently television had been
opposed by some local ministers in the late 40's and early 50's, but opposition by religious leaders was negligible at the time of the study.

One individual from the Brooklyn community, when asked if he read any newspapers or magazines regularly replied that he did not and added, "I read my Bible. I am a 'foot-washing' Baptist." He had neither a radio or television. He was active in one of the local churches, attended half or more of the meetings and was the elected choir leader. His occupation was that of carpenter with a reported income of $3,000-4,999 for the previous year. When questioned about his class orientation he chose "upper middle." He indicated that he was not often sought for advice or information.

This respondent had a very favorable attitude toward the Forest Service. He ranked the forest ranger first in order of desirability, chose "excellent" as the appropriate response for the kind of job he thought the forest fire control agencies were doing in the area and added, "Good, good job; they are really on the ball!"

The respondent had noticed highway signs and knew about "Smokey material" which he had received from the "Tree Nursery" (property of the U. S. Forest Service located near Brooklyn). His response to the items involving sanctions for wood burners was interesting: He replied that he was not in favor of fining or putting anyone in jail. His explanation was, "I couldn't because my conscience would hurt me. I wouldn't want to put anyone in jail."
This individual's responses to items with regard to fire prevention signs and posters had implications for the present investigation. He replied that he had seen signs and posters (this response was predictable in terms of the second research hypothesis); when asked what the sign said he replied, "'Forest Fires Destroy Watersheds,' but I don't know what this means. I have often wondered." He was unable, however, to make a correct identification of the poster which had been placed in his community in connection with this study. His score on the organizational symbol identification test however was 100 per cent. The respondent's educational level was seventh grade; his wife's was eighth grade.

Three of the individuals classified as having neither radio nor television in working order actually owned receivers but their receivers were not in working order. Such an individual was Mrs. __, who lived in Carnes community. She was sixty years of age, her husband was seventy-three years of age and a thirty-year-old unmarried son resided with them. Their television set had been broken for one month, their radio for approximately six months. They continued to have some contact with the mass media; the family subscribed to the Hattiesburg American and the Progressive Farmer. They did not own a telephone.

The husband was a self-employed cattleman. The wife indicated that she had worked for two years as an insurance saleswoman. Their income for the previous year was listed
at between $2,000-2,999. They felt that they were often
turned to for advice and information; they were oriented
toward the upper class (she responded, "we try to be."). On
the basis of socio-economic data, it is obvious that her
social class aspirations were far above the family's standard
of living.

The respondent was very favorably disposed toward the
Forest Service; she ranked Forest Ranger first in order of
desirability and chose "excellent" as the appropriate re-
sponse for the kind of job the forest fire control agencies
were doing in the area. She was correctly informed as to the
amount of money that the county received from the Forest
Service and felt that it was a fair share. She also was in
favor of fining and imprisoning a person who deliberately set
fire to woods he did not own.

She stated that she had not seen or heard anything
about forest fire prevention in the last six months. Para-
doxically, she was able to correctly identify the poster
placed in her community. Her response to the statement re-
garding watersheds was coded "content incorrect." This was
somewhat surprising since she had completed ten years of
schooling and lived near the sign (Carnes community).

Some of the respondents who lacked radio and tele-
vision sets were not favorably disposed toward fire control
agencies. One such respondent resided in the Carnes com-
munity. She was thirty-eight years of age; they had one
sixteen-year-old son. The family rented a hundred-acre
farm and owned seventeen "woods" cattle (she stated that the cattle did not graze on open range or on National Forest land).

This respondent ranked the forest ranger sixth in desirability and chose "average" as the appropriate category for the kind of job the forest fire control agencies were doing. She knew the correct amount of money which was returned by the Forest Service to the county (approximately 25 per cent), but she felt that this amount was not a fair share.

It was hypothesized that persons who did not feel the amount returned was fair would have negative attitudes toward the forest fire control agencies and would not see or would distort fire prevention messages (see Chapter VII). This subject conformed to the pattern predicted and her responses tended to support the research hypothesis. She indicated that she was not in favor of putting the woods burner in jail. Furthermore, she asserted that she had not seen or heard anything about forest fire prevention in the last six months. (Her response was, "No sir!") She stated that there were no forest fire prevention signs or posters in the area; her identification of the study poster was incorrect. Her score on the organizational symbol test, however, was 100 per cent. She did not know what a watershed was. Her family did not subscribe to magazines or newspapers; their television set had been broken for about six months and they did not own a radio.
Religion did not appear to be an important factor in this instance. Neither the head nor the son attended church and, though the wife was a member of a local Baptist church, she did not attend regularly. The respondent generally responded with negative attitudes toward fire control agencies, even though her husband earned his living by means of a forest-related occupation (stump man). His salary during the previous year was less than $2,000. Perhaps their low income was a source of her disenchantment with forestry aims. Or, there may have been another cause: the interviewer reported that the respondent had a friend who had been fined for woods burning.

There were only two responses on her interview schedule which could be interpreted as favorable. She indicated that she did not feel too much of the county was in forest land. Moreover, her response to the fourth fire prevention message (The South is Robbed by the Malicious Woods Burner: Help Stop Him) was as follows: "More fires are in the South than other section. Report anyone you see starting a fire."

Two other accounts round out the analysis of the respondents who indicated they lacked a radio and television receiver. The first was a fifty-four year old minister who lived in the Carnes community. He had a twelfth grade education and his wife, fifty-eight years of age, had completed college. He ranked the occupation of forest ranger "first" in desirability and chose "excellent" as the appropriate response to the kind of job the forest fire control agencies
were doing in the area. He did not believe that too much of the county was in forest land and felt that woods burners should be fined. Reverend ___ was uncertain whether a woods burner should be put in jail.

He indicated that he had seen signs and posters in the area, but was unable to correctly identify the study poster. He was able to correctly identify five of the six organizational symbols (he correctly identified Smokey the Bear). Furthermore, he knew what a watershed was; when the fourth statement was read to him (The Malicious Woods Burner), he responded that, "We should see that all the laws are enforced." He had neither radio nor television but he did read newspapers and magazines regularly. Reverend ___ subscribed to the Reader's Digest and read the Hattiesburg American regularly, though he was not a subscriber.

His income was listed at between $3,000-4,999 and he chose "lower middle" as his class orientation. The respondent also indicated that he was sought out for advice and information.

The final radio/TV non-owner to be described in this section was a fifty-seven-year-old man from the Carnes community. He had an eleventh grade education and owned a thirty-two acre farm. He had no livestock. He ranked the forest ranger first in order of desirability, but felt that the forest fire control agencies were doing only a "fair" job. The respondent indicated that he favored fining and imprisoning the person who deliberately set fire to the
woods. Also, he stated that he had seen and heard about forest fire prevention in the last six months. When asked to indicate his source of information, he responded that a man (Don Hatton) often came by telling people that he was a "fire fighter." The respondent reported that he had not seen the posters put up for the experiment but was unable to make a correct identification. He correctly identified only four of the organizational symbols.

He correctly perceived the content of the watershed slogan and gave the following response to the fourth fire prevention slogan (The Malicious Woods Burner): "Stop it! You are cutting men out of jobs."

The respondent was active in the local church and held a responsible position (church clerk). He indicated that he did not read any newspapers or magazines regularly though occasionally he did read the Hattiesburg American and the Times Picayune (he was not a subscriber to either paper).

Income was probably a factor in this respondent's lack of ownership of a radio or television receiver; he indicated that he made less than $2,000 in 1964. (He was currently unemployed and the interviewer noted that he was ill.)

He chose "lower middle class" as his class orientation and, when queried as to whether he was sought out for advice or information, responded, "Yes, very often."

From the foregoing descriptions it can be seen that the attitudes of the non-owners were heterogeneous rather than homogeneous with regard to the fire control agencies.
Their attitudes ranged from strongly positive to strongly negative. Some of the fifteen had contact with the newspaper and magazines whereas others did not. It was important to note that some of these persons are opinion leaders in their communities.

The Printed Media

Each respondent was asked, "Do you read any newspapers or magazines regularly?" If an affirmative response was indicated, the interviewer listed by name the newspapers and magazines which the respondent read and those publications to which he subscribed.

A total of 143 respondents (68.4 per cent) indicated that they read newspapers or magazines regularly. There was a numerical differential between the two communities; Brooklyn had the larger number of regular readers (73 per cent contrasted with 64 per cent). In both communities the Hattiesburg American was the most widely read newspaper; for the total study 131 persons indicated that they read or subscribed to this particular daily newspaper. The New Orleans Times Picayune ranked second in reader popularity and the Jackson Clarion Ledger was third.

Actually, three newspapers are regularly published in Forrest County.2 The Hattiesburg American has a circulation

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of approximately 16,614 (1963) and is published every evening except Sunday. It is an independent publication.

The Petal Paper, with a circulation of 2,150, is published every Thursday. It too is independently owned.

The Student Printz is a collegiate paper published at the University of Southern Mississippi each Friday. Its circulation is approximately 4,150.

There was no attempt to find what portions of a given newspaper were read with the greatest amount of frequency. Information of this nature would be interesting and useful in continuing studies on this project.

A few other papers were mentioned but their importance appeared to be negligible. Papers such as the REA paper and the Jackson Daily Herald were included in this category (the total number of reported readers for these papers was six and three, respectively).

Most of the respondents read no more than one paper regularly (93 affirmative responses; 65.0 per cent of the regular readers). An additional 27 respondents indicated they read two papers regularly, 13 stated they read three papers regularly while the respondent indicated a regular reading of five papers.

The pattern of magazine popularity varied significantly between the two communities. The Progressive Farmer was the most popular—there were thirty-nine readers and subscribers, however, of this number, twenty-six lived in the Carnes community. Generally, the reading tastes of
persons in the Carnes community tended to be oriented toward farming magazines and magazines which heavily stressed outdoor living or recreation. Readers in the Brooklyn community, while reading and subscribing to several of the same publications, tended to be slightly more cosmopolitan in their reading tastes.

In Brooklyn, the magazines with the largest number of readers were the Reader's Digest (18 readers and subscribers) and the Progressive Farmer (not far behind with 13 readers and subscribers). Thirty persons indicated they read or subscribed to the Farm Journal in Carnes, whereas only two persons indicated they read or subscribed to this publication in Brooklyn.

Publications such as Life, Look, Saturday Evening Post, were not widely read in either community. When readership of these publications was indicated, the respondents tended to live in the Brooklyn community. A total of fifteen persons stated they read or subscribed to Life; only five of these lived in Carnes. The Saturday Evening Post had fifteen readers and subscribers—nine of which lived in Brooklyn.

Good Housekeeping had a fair circulation in the area. A total of ten respondents indicated they read or subscribed to the magazine; eight of these lived in Brooklyn.

Several respondents indicated that they read or received certain religious papers or magazines (usually denominational publications). Publications such as the Baptist Record, the Christian Herald, the Commission, Royal
Service and the Methodist Story were listed in this category. None of these publications, however, had a very large number of readers or subscribers.

The reading tastes of Brooklyn residents was interesting in that, as has already been noted, a number of cosmopolitan magazines were regularly read. The following magazines, though each had less than five readers or subscribers, were regularly read in the Brooklyn area: Better Homes and Gardens, Better Living, Coronet, Cosmopolitan, House & Garden, Ladies Home Journal, McCall's, Redbook, Seventeen, Time and World Outlook. This wide range of reading tastes and interests was not observed in the Carnes area.

Forty-two persons indicated that they read one magazine regularly, twenty-eight persons indicated two magazines, sixteen persons three, nine persons four, and so on. Tables XIII and XIV depict the total number of magazines regularly read in the respective communities.

An examination of Table XIII reveals that in Carnes (the community with the highest rate of woods burning) forty-seven respondents indicated that they did not read or subscribe to any magazine. A similar response was noted for newspapers; forty-three respondents did not read any newspaper regularly. Though a slightly higher number of readers was found in Brooklyn, the figures are not very encouraging to the change agent who wishes to use the printed media as an information source or who wishes to persuade or convert by means of the printed media.
### TABLE XIII

PERCENTAGE OF NEWSPAPERS REPORTED REGULARLY READ, FOR CARNES AND BROOKLYN

<table>
<thead>
<tr>
<th>Number</th>
<th>Carnes Per Cent</th>
<th>Brooklyn Per Cent</th>
<th>Total Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't know or no response</td>
<td>0</td>
<td>.4</td>
<td>.4</td>
</tr>
<tr>
<td>None</td>
<td>21.4</td>
<td>13.8</td>
<td>35.2</td>
</tr>
<tr>
<td>One</td>
<td>22.0</td>
<td>22.4</td>
<td>44.4</td>
</tr>
<tr>
<td>Two</td>
<td>5.2</td>
<td>7.5</td>
<td>12.7</td>
</tr>
<tr>
<td>Three</td>
<td>1.9</td>
<td>4.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Four</td>
<td>.4</td>
<td>.4</td>
<td>.8</td>
</tr>
<tr>
<td>Five</td>
<td>0</td>
<td>.4</td>
<td>.4</td>
</tr>
<tr>
<td>Total</td>
<td>50.9</td>
<td>49.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

N = 209.

### TABLE XIV

PERCENTAGE OF MAGAZINES REPORTED REGULARLY READ, FOR CARNES AND BROOKLYN

<table>
<thead>
<tr>
<th>Number</th>
<th>Carnes Per Cent</th>
<th>Brooklyn Per Cent</th>
<th>Total Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't know or no response</td>
<td>1.4</td>
<td>1.0</td>
<td>2.4</td>
</tr>
<tr>
<td>None</td>
<td>22.5</td>
<td>23.0</td>
<td>45.5</td>
</tr>
<tr>
<td>One</td>
<td>12.0</td>
<td>8.2</td>
<td>20.2</td>
</tr>
<tr>
<td>Two</td>
<td>6.6</td>
<td>6.6</td>
<td>13.2</td>
</tr>
<tr>
<td>Three</td>
<td>2.4</td>
<td>5.3</td>
<td>7.7</td>
</tr>
<tr>
<td>Four</td>
<td>1.4</td>
<td>2.8</td>
<td>4.2</td>
</tr>
<tr>
<td>Five</td>
<td>1.9</td>
<td>1.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Six</td>
<td>.5</td>
<td>.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Seven</td>
<td>1.0</td>
<td>.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Eight</td>
<td>.5</td>
<td>.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>50.2</td>
<td>49.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>

N = 209.
Informal Sources

Some data were obtained which could be considered basic to an evaluation of informal sources of information. The procedure for obtaining the data was as follows: each respondent was asked if he knew the name of his District Ranger (U. S. Forest Service), his Area Forester (Mississippi Forestry Commission) and if he knew any other foresters in the area. The interview schedules were coded in such a manner as to indicate a respondent's acquaintance with a particular forester even if he were unable to supply the forester's name. This latitude of interpretation is reflected in the following statistics.

Only twelve of the 209 respondents could give the name of the U. S. District Ranger correctly. There were 179 respondents who were unable to give his name or who gave an incorrect answer. An additional twelve respondents, however, indicated that they were acquainted with the District Ranger but did not know his name. There was no statistically significant difference in the responses with respect to residence. One individual added, "He's some Yankee." Three of the respondents thought that John Henry Daughdrill, a forester employed by the U. S. Forest Service, was the District Ranger. Two persons indicated they thought "Mr. King," an employee of the Forest Service at the Brooklyn Nursery was the Ranger. One respondent mentioned another employee of the Forest Service. Several respondents explained that the reason they were unable to correctly recall the ranger's name was due to
the fact that the men employed by the Forest Service changed so frequently that it was impossible to "keep up with them." This explanation had some basis in fact. The labor force recruited from the local area tended toward long-term employment whereas personnel in supervisory and administrative capacities tended toward shorter terms. At the supervisory and administrative level, transfers to and from other regions tended to be relatively frequent.

A slightly larger number of respondents were able to name the Area Forester (Mississippi Forestry Commission) in a correct manner. There were eighteen such correct identifications; only two indicated they knew the area forester but could not give his name. A total of 185 respondents (88.4 per cent), however, did not know or could not correctly give the name of the Mississippi Forestry Commission's Area Forester.

Most respondents were able to give the name of other foresters in the area. In fact, only 19 persons (9 per cent) indicated that they did not know or could not correctly give the name of at least one forester. A combined total of at least ten different names were given. Included in the list were the names of state, private, and national foresters. It would appear from an inspection of this information that practically every person in the Brooklyn-Carnes area has an opportunity for contact with a forester or an employee of one of the fire control agencies.
III. RESPONDENTS' REPORTED SOURCES OF FIRE PREVENTION KNOWLEDGE

Each respondent was asked, "Have you seen or heard anything about fire prevention in the last six months?" If the response was affirmative, the respondent was asked to tell where he had seen or heard it. The interviewers were instructed as follows: "Attempt to get exact information such as television channel, name of program, name of paper; if sign—where posted, if person—identify by relationship or occupation, etc." The information thus gained made possible an analysis of the relative frequencies of the respective sources of fire prevention knowledge.

A total of 134 respondents (64.1 per cent) indicated that they had heard and seen something about fire prevention in the last six months. Fifteen interviewers said "Don't Know" or gave "No Response" and an additional three interviewers said they were "undecided." Fifty-seven persons (27.3 per cent) responded negatively. The percentage of respondents who stated they had seen and heard about fire prevention in the last six months was higher for Brooklyn than Carnes (78.8 per cent and 49.5 per cent, respectively). This difference was statistically significant at the .001 level (chi square: 28.51781 with 5 Degrees of Freedom).

Television

Television was the medium most frequently mentioned by the respondents as a source of fire prevention information.
(The relative frequencies for the respective media mentioned are shown in Table XV.) A total of 58.3 per cent of the 209 respondents indicated that they had seen or heard something about fire prevention on television. Several elaborated by indicating which television station had broadcast the message.

Residents of Forrest County, depending on their location in the county, were able to view any one of several television stations. WDAM T.V., located in Hattiesburg, was potentially viewable everywhere within the county. The Biloxi-Gulfport station (WLOX) was also within the range of most receivers within the county. The Mobile channel (WJRG) could be viewed only by a few residents on the eastern side of Forrest County. Residents in the southernmost part of Forrest County reported being able to view some program from two of the New Orleans channels (WDSU, WWL).

WDAM T.V. (Hattiesburg) was most frequently mentioned whenever respondents specifically indicated the channel on which they had seen a fire prevention message. A total of 64 persons, or 30.6 per cent of the total number of respondents, indicated that they had seen or heard a fire prevention message on this particular channel.

When the respondents were asked to specify what type of program they had heard or seen, many replied that the messages were presented in the form of spot advertisements. Some however noted that they had heard the "Singing Woodsman." The county agent's program was also specified by
<table>
<thead>
<tr>
<th>Source</th>
<th>Don't Know or No Response</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Newspaper--Local</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Carnes</td>
<td>76.2</td>
<td>8.6</td>
<td>15.2</td>
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<tr>
<td>Brooklyn</td>
<td>67.3</td>
<td>17.3</td>
<td>15.4</td>
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<td>Total</td>
<td>71.8</td>
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<tr>
<td><strong>Magazine or Non-Local Paper</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Carnes</td>
<td>83.8</td>
<td>1.9</td>
<td>14.3</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>87.5</td>
<td>3.8</td>
<td>8.7</td>
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<td>Total</td>
<td>85.6</td>
<td>2.9</td>
<td>11.5</td>
</tr>
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<td><strong>Radio</strong></td>
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<td></td>
</tr>
<tr>
<td>Carnes</td>
<td>78.1</td>
<td>6.8</td>
<td>15.2</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>70.2</td>
<td>10.6</td>
<td>19.2</td>
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<tr>
<td>Total</td>
<td>74.2</td>
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<td>17.2</td>
</tr>
<tr>
<td><strong>Television</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Carnes</td>
<td>45.7</td>
<td>48.6</td>
<td>5.7</td>
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<tr>
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<td>68.2</td>
<td>16.3</td>
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<td>11.0</td>
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<td>1.0</td>
<td>15.2</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>95.2</td>
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<td>1.0</td>
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<td>Total</td>
<td>89.5</td>
<td>2.4</td>
<td>8.1</td>
</tr>
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<td><strong>Personal Contact--Friend, Official, etc.</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Carnes</td>
<td>83.9</td>
<td>2.0</td>
<td>14.3</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>92.3</td>
<td>6.7</td>
<td>4.4</td>
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<tr>
<td>Total</td>
<td>88.1</td>
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<td>13.4</td>
</tr>
<tr>
<td><strong>Signs or Posters</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carnes</td>
<td>64.8</td>
<td>28.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>33.7</td>
<td>59.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Total</td>
<td>49.3</td>
<td>44.0</td>
<td>6.7</td>
</tr>
</tbody>
</table>
several respondents (it was not clear from the interview schedule whether this particular program was heard on radio or seen on television). Often Smokey the Bear was mentioned in connection with television announcements and in several instances the respondent would typically add, "Yes, I've seen Smokey the Bear telling us, 'Only You Can Prevent Forest Fires.'"

Television programs not specifically designed for forest fire prevention propaganda were sometimes mentioned as a source of fire prevention information. Several respondents related that they had seen a news telecast during the previous summer reporting forest fires in California. One such respondent, after he had mentioned seeing such a program, was asked if he had seen spot announcements or advertisements about fire prevention. He indicated that he had seen only the news telecast—no special fire prevention announcements or advertisements were remembered.

An investigation of the extent to which local television stations made use of fire prevention materials was undertaken as an adjunct to the study. Before the interviewing began, John O. Moore, an I and E (Information and Education) Forester employed by the Mississippi Forestry Commission, obtained pertinent information from his district office records and from log sheets from the two television stations in his district. On the basis of his report, it was found that two monthly fire prevention programs were presented each month over WDAM T.V. Hattiesburg. This was done on a regular
basis on the first and third Monday of each month. The Biloxi-Gulfport station scheduled no regular fire prevention feature program but usually presented at least one such program approximately every two months.

An analysis of the log sheets of two television stations was carried out to determine the number and time of day that the CFFP (official fire prevention material prepared for fire control agencies by the Advertising Council) spot announcements were used. This information is presented below:

**WLOX T.V. - Biloxi**

**Period:** November, 1964 to February, 1965

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6 a.m. to 12 Noon</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>12 Noon to 3 p.m.</td>
<td>4</td>
<td>3</td>
<td>9</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>3 p.m. to 6 p.m.</td>
<td>1</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>6 p.m. to 6 a.m.</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td>10</td>
<td>21</td>
<td>24</td>
<td>70</td>
</tr>
</tbody>
</table>

**WDAM T.V. - Hattiesburg**

**Period:** October, 1964 to March, 1965

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6 a.m. to 12 Noon</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>12 Noon to 3 p.m.</td>
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<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>3 p.m. to 6 p.m.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>6 p.m. to 6 a.m.</td>
<td></td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>2</td>
<td>21</td>
</tr>
</tbody>
</table>
Signs and Posters

The second most frequently mentioned source of fire prevention knowledge was that of signs and posters. A program of placing and maintaining heavy duty fire prevention signs along the highways of both Forrest and Perry counties had been carried on for several years by the U. S. Forest Service. There were at least four such signs within a ten-mile radius of the Brooklyn-Carnes area. In addition, posters prepared by the Advertising Council had been placed in a few conspicuous places such as Post offices, etc.

The writer also observed at least two reward posters displayed at business establishments in communities in Forrest County. No such signs however were observed in either Carnes or Brooklyn. These posters offered cash rewards for information leading to the arrest of persons who violated the statutory woods laws for the State of Mississippi.

One individual who had seen a reward sign remembered the exact amount of money that was offered. He stated that he had seen a "sign about $500 or two years for burning the woods." He also indicated that he had seen highway signs with Smokey the Bear on them. The only other source of fire prevention information indicated by this individual was that of commercials on WDAM T.V.

The fact that this individual could so vividly recall the details of the reward poster is perhaps explained by the fact that he had previously related to the interviewer of his friendship with a person who "just got out of jail" for
burning the woods. This individual had a generally favorable attitude toward the Forest Service even though he ranked the Forest Ranger fifth in order of importance on the occupational scale utilized in the study, and stated that he felt the forest fire control agencies were doing a "good" job in the area. He favored fining and imprisoning woods burners.

A total of 59.6 per cent of the Brooklyn respondents reported having seen signs or posters, whereas only 28.6 per cent of the Carnes respondents reported having seen them. It should be remembered that even though fire prevention posters were not as frequently employed in the Carnes area, large wooden fire prevention signs were conspicuously located on both the paved roads leading into the Carnes community.

Smokey the Bear was frequently mentioned in connection with the posters and signs. A fifty-three-year-old female resident of the Carnes community, when asked if she had seen or heard anything about fire prevention, replied, "I have seen Smokey the Bear on the side of the road." This was the only fire prevention information source mentioned on her interview schedule. Her responses to other items however indicated an over-all favorable attitude toward the fire control agencies.

A seventy-one-year-old Brooklyn man, when shown the mass media symbols, correctly identified only three of the six. He was able to identify Smokey the Bear, however, and added, "Pretty good advertisement. He reminds folk not to burn woods."
Another respondent—a twenty-one-year-old housewife from the Carnes community—mentioned the wooden signs which she had seen and was able to correctly identify their locations. A forty-three-year-old male inhabitant of Brooklyn stated that he had noticed "posters on all the roads." Despite the fact that he had only a third grade education, he was able to give an intelligent explanation of each of the four fire prevention messages which were read to him. His over-all attitude toward the fire control agencies was positive.

It is significant that a number of the respondents were so familiar with the message imprinted on the large wooden signs that they could recall them from memory. Several of the respondents gave slogans from the large wooden signs as the message which they thought to be correct for the posters used in the perception-recall experiment. Responses such as, "Only You Can Prevent Forest Fires," "When the Woods Burn, Everybody Loses," were rather frequent.

Newspapers—Local

Local newspapers were mentioned as a source of fire prevention knowledge by only 12.9 per cent of the respondents. The response for this information source was higher in Brooklyn than in Carnes (17.3 per cent and 8.6 per cent, respectively).

Several of the respondents elaborated by telling the particular way in which the message was conveyed. A few
mentioned editorials, but most indicated that they had seen fire prevention emphasized in newspapers in the form of spot advertisements. Two respondents indicated that they had seen newspaper reports of money contributed to the county by the U. S. Forest Service.

One person indicated that he had read articles in the newspapers about fire prevention but he had seen no ads. The same individual had heard about fire prevention at a Soil and Water Conservation meeting. The program consisted of a talk by a forester. When asked about television he replied, "I really haven't seen anything on T.V." An individual in the Brooklyn community specified the Hattiesburg American as a source of fire prevention information. He stated that he had seen an article not long before he was interviewed. He believed it was given to the newspaper by "the State people." This individual noted that he also saw "little plugs" every two or three days on television. The source of these television messages was WDAM-Channel 7. He stated that he did not listen to the radio very much.

Radio

Radio was infrequently mentioned as a source of fire prevention knowledge. It ranked a poor fourth (8.6 per cent) in relative frequency. Those respondents who did mention radio seemed to be favorably impressed by the messages. Quite frequently when respondents were asked specifically about radio as an information source they would respond that
they did not listen to the radio very much.

**Personal Contact—Friend, Official, etc.**

This category of responses was the fifth most frequently mentioned source of fire prevention information. Direct contact, since it does involve personal influence, has perhaps the greatest potential for change even though its relative frequency rank is quite low. Generally it appeared that personal contact with forestry personnel resulted in favorable responses.

One striking exception to this was noted in an interview in the Carnes community. The respondent was a sixty-six-year-old widow who was cooperative and friendly throughout the entire interview. Her formal education attainment was one year of college.

When asked if she had seen or heard anything about forest fire prevention in the last six months her first response was that she had seen advertisements on television, but had read nothing in the newspaper and had heard nothing on the radio. Then she noted that when a neighbor had been arrested for woods burning, the FBI had come and had endeavored to obtain information. She stated that they were "very ugly" to her.

Her over-all attitude toward fire control agency aims was favorable despite this unpleasant incident. For example, when she was asked if she would advise a young man to choose a job with a lumber or paper company, she replied, "Yes;
because we are in the pine area. This is a sawmill lumber area and we are using reforestation so it will go on and on. It would be a good line for a young man."

Other respondents who indicated that they had heard about forest fire prevention through personal contact mentioned visits of foresters to organizational meetings such as the Farm Bureau banquet. Thus, there was an overlap between formal organizations, meeting, etc. and personal contacts as sources of fire prevention information.

One Brooklyn respondent who reported school programs as a source of fire prevention information, related that foresters had come to the school and had given "funny books" to the children. The respondent also mentioned WDAM T.V. and WWL radio as sources of fire prevention information. Furthermore, she specifically told of viewing the "Singing Ranger" on television and of observing posters, Smokey the Bear, and roadside signs.

The interviewer noted on her interview schedule, "This is a good place to interview for the Forest Service has a good image in Brooklyn." Since her responses were so favorable, the writer checked to see if anyone in the household was connected in any way with a forestry related vocation. The finding was negative. The respondent was a substitute teacher employed by the Forrest County School Board and her husband was a mechanic.

A thirty-year-old housewife from the Brooklyn community indicated that she had visited the Paret tower (a U. S. Forest
Service installation not far from Brooklyn). She mentioned that she had seen nothing on television about forest fire prevention, even though she had a television in working order; she did remember seeing signs on the highway such as those of Smokey the Bear.

Other Sources

The remaining information sources for fire prevention knowledge were negligible in their relative reported frequency. Formal organization, meetings, etc., magazines and non-local papers were mentioned by less than five per cent of the respondents interviewed.

IV. THE "LASSIE" PROGRAM: A SPECIAL INVESTIGATION

A forest ranger presently is one of the featured roles of the "Lassie" television series; it was previously that of a farmer. This writer felt that it would be interesting, and perhaps important, to find out the extent to which residents of the Brooklyn-Carnes area were aware of the role the actor played in the series. This feeling was based on the assumption that writers and directors of the television program would consult with the U. S. Forest Service so that as accurate a picture as possible would be presented of the work of forest rangers.

It seemed safe to hypothesize that regular viewing of the program would have some effect upon viewer's conception
of the forest ranger. With this thought in mind, two special items were included in the interview schedule. The respondent was asked, "Have you seen the Lassie program on T.V. this year or not?" The second item was, "What does Lassie's master do for a living?"

A discouraging factor was encountered when it was learned that the Hattiesburg television station (WDAM) did not telecast the Lassie program. Only WKRG in Mobile and a New Orleans television station carried the program.

The results however were encouraging. A total of 35.9 per cent of the respondents interviewed indicated that they had viewed the Lassie program within the last year. There was no appreciable difference with respect to the two communities (Brooklyn--36.5 per cent; Carnes--35.9 per cent).

Thirty per cent of the respondents stated that Lassie's master was a forest ranger. An additional 8.6 per cent indicated that Lassie's master was a farmer. The latter response indicated that the respondent had seen the Lassie program prior to the change of the featured role. There were more correct identifications of the role of Lassie's master in Carnes than in Brooklyn but the difference was not statistically significant (31.4 per cent contrasted with 28.6 per cent).

No attempt was made to evaluate the importance of this program in shaping attitudes. It is possible that the program could contribute to more favorable public relations between the public and fire control agencies as well as
influence favorable attitudes toward fire prevention goals.

V. SUMMARY

Information relevant to the number of sources of fire prevention messages and symbols seen and heard in the study communities is reported in this chapter. The sociological approach to information sources and feedback—sometimes called the communication situation—was utilized in an analysis of the data.

As anticipated, virtually all residents of both communities reported regular exposure to mass media messages. Only 5.6 per cent of the respondents reported lack of radio, television, newspapers, and magazines. Even those probably had occasional contact with the aforementioned media. The entire population was therefore viewed as potentially reachable via the mass media.

Those specifically mentioning fire prevention message sources named, in order of frequency, the following: (1) television; (2) signs and posters; (3) local newspapers; (4) radio; (5) personal contacts with friends, officials, etc.; (6) magazines and non-local papers; (7) formal organizations, meetings, etc.

A special investigation was made of the extent to which respondents were familiar with the "Lassie" television series. A total of 35.9 per cent of the respondents indicated they had viewed the program within the last year; 30 per cent correctly identified Lassie's master as a forest
ranger. No attempt was made to evaluate the influence of the series upon forestry attitudes.

Data relevant to residents' familiarity with fire prevention messages and with sources of the messages was found to be of value in subsequent testing of hypotheses. In the following chapter, laws and sanctions are discussed as fire prevention messages and the findings derived from testing the fourth research hypothesis are reported.
CHAPTER VI

FOREST FIRE LAWS: ENFORCEMENT AND SANCTIONS
IN THE STUDY AREA

Administrators of fire control agencies are interested in developing indices by which to gauge the conditions in which law enforcement would be most effective and as well as learn what measures to employ. One phase of the over-all research program does, in fact, specifically involve "the study of laws dealing with forest protection and liability for setting fires, or allowing them to escape, in relation to the leadership structure of the forest community and the state of public opinion."\(^1\)

It has been suggested that such findings will have potential applicability to the woods burning situation. Fahnestock and Kaufman, writing on this subject state: "Ultimately findings could be expected to affect the nature of the laws as well as enforcement practices."\(^2\)

The fact should be noted that knowledge of fire laws, enforcement procedures, application of sanctions, and the like is, in reality, one aspect of communication research.

\(^2\)Ibid.
It is suggested that the public's attitude toward these laws, enforcement procedures, and sanctions influences their perception and behavior. Hence, attention has been given to this element of fire prevention in the present study. Further, it is hypothesized that residents in areas with high forest fire rates tend to have more lenient attitudes toward enforcement of fire laws than those in areas with low incendiary fire rates. The findings pertinent to this research hypothesis are included in this chapter.

I. THE SOCIOLOGICAL PERSPECTIVE
ON LAWS AND SANCTIONS

The study of law and sanction (sanction—the rewards or punishment used to enforce the norms of a society) is usually considered to be one aspect of social control. Social control, broadly conceived, consists of processes and mechanisms whereby the deviancy of members of a social system is prevented from proceeding beyond tolerable limits.3

Social control processes are related to four different levels of behavior.4 First, there are those processes that serve to prevent situations from developing which might lead to deviance. They are classified as preventive mechanisms. Then, there are those mechanisms which serve to manage


4Bertrand, Basic Sociology, loc. cit.
tensions which tend to develop after an act of deviance has occurred. Third, there are direct social control mechanisms which are employed to control behavior which cannot be managed by less overt measures. Finally, there are mechanisms designed to mold attitudes and opinions so as to bring about a rejection of old patterns of behavior which are not in keeping with patterns desired.

Positive and negative sanctions may be applied when certain stresses and strains cannot be prevented or managed. These techniques of social control may be classified in three broad categories: physical sanctions, economic sanction, and psychological sanctions.⁵

Physical sanctions are the most obvious. The kinds and types of physical sanctions are many; the range runs from subtle threats to physical punishment and extermination.

There are both positive and negative economic sanctions. Negative economic sanctions include such techniques as intimidation, fines, and economic boycotts. Economic rewards (positive sanctions) may also be used to discourage deviance or encourage certain types of desired behavior patterns.

Psychological sanctions are thought by many to be the most basic sanctions. This is because these are generally the first to be utilized after which physical or economic

sanctions may be tried. Psychological sanctions include such techniques as reproof, ridicule, and ostracism. These serve to make the individual feel apart from the group.\(^6\)

The final category of social control techniques to be mentioned here is considered under the heading of propaganda. "Propaganda may be defined as a technique of social control, or as a species of social movement. As a technique, it is the manipulation of collective attitudes by the use of significant symbols (words, pictures, tunes) rather than violence, bribery, boycott."\(^7\) It is interesting to observe that one of the features of propaganda as a social control technique is particularly germane to the present study; that is, propaganda is a technique utilized for controlling or ordering human behavior according to predefined standards, "although these standards may not be in keeping with old norms."\(^8\)

The foregoing discussion is aimed at providing the reader with a frame of reference within which to fit the data that have been gathered. It should be noted that the following sections are particularly devoted to an explication of the third broad category of social control mechanisms mentioned above—social control through the application of sanctions.

\(^6\)Bertrand, loc. cit.


\(^8\)Ibid.
II. FOREST FIRE LAWS

Incendiarism in National Forest Land is expressly prohibited by law and both physical and economic sanctions are employed in enforcement of the laws. The text of the federal law is as follows:

Whoever, willfully and without authority, sets on fire any timber, underbrush, or grass or other inflammable material upon the public domain or upon any lands owned or leased by or under the partial concurrent, or exclusive jurisdiction of the United States, or under contract for purchase or for the acquisition of which condemnation proceedings have been instituted, or upon any Indian reservation or lands belonging to or occupied by any tribe or group of Indians under authority of the U.S., or upon any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall be fined not more than $5,000 or imprisoned not more than five years, or both.

This section shall not apply in the case of a fire set by an allottee in the reasonable exercise of his proprietary rights in the allotment. (June 25, 1948, ch. 655, 62 Stat. 788.)

This particular law is specifically directed toward deterring willful or deliberate woods burning. In fact, it is stated that the words "without authority" were inserted at the beginning of the section "so as to remove any doubt as to scope or meaning of section."


10Ibid.
There is also a federal law enacted to deter carelessness and thereby prevent forest fires. The sanctions, in this case, are not as severe as are those associated with deliberate incendiaryism. The former violation, it will be remembered, may lead to maximum penalties of fines of no more than $5,000 or imprisonment of no more than five years or both. Persons convicted of causing fires due to carelessness may be fined no more than $500 or imprisoned no longer than six months, or both. The text of the federal law relating to fires left unattended and unextinguished is as follows:

Whoever, having kindled or caused to be kindled, a fire in or near any forest, timber, or other inflammable material upon any lands owned, controlled or leased by, or under the partial, concurrent, or exclusive jurisdiction of the United States, including lands under contract for purchase or for the acquisition of which condemnation proceedings have been instituted, and including any Indian reservation or lands belonging to or occupied by any tribe or group of Indians under the authority of the United States, or any Indian allotment while the title to the same is held in trust by the United States, or while the same shall remain inalienable by the allottee without the consent of the United States, leaves said fire without totally extinguishing the same, or permits or suffers same fire to burn or spread beyond his control, or leaves or suffers said fire to burn unattended, shall be fined not more than $500 or imprisoned not more than six months, or both.11

One important feature of the law cited above is that legal justification is provided for law enforcement officials to make arrests even though the carelessness did not in fact lead to a forest fire. Simply leaving an unattended fire in

11Ibid., #1856, p. 3645.
certain specified places is a violation of federal law, which may lead to prosecution and application of sanctions. This writer feels that the latter law, with its attendant milder sanctions, provides a mechanism law enforcement officials may utilize whenever deliberate woods burning is suspected but deliberate ("willful") intention is difficult or impossible to prove.

State laws as well as federal laws have been enacted in order to deter arson. The federal laws apply only to lands which are specifically defined as government owned or controlled. State laws of Mississippi are similar in intent and composition to federal laws but have a much wider jurisdiction. The Mississippi State Law applies to fires set in "any woods, meadow, marsh, field, or prairie, not his own. . . ."

Figure 2 presents the text of certain Mississippi state laws which relate to incendiarism and/or woods burning resulting from neglect. The text of these laws may be found on reward posters displayed in Forrest County. During the course of the investigation the writer observed several of these posters in neighborhoods throughout the county.

Federal and state laws are similar in composition in the sense that willful acts (with more stringent penalties) as well as negligent acts (with more lenient penalties) are prohibited. The federal law refers to the person who

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12 Mississippi Code, H.B. No. 120: Section 1, Ch. 222, Laws of 1954.
H.B. No. 120: Section 1, Chapter 222. Laws of 1954.

"If any person wilfully, maliciously, and feloniously sets on fire any woods, meadow, marsh, field or prairie, not his own, he shall be guilty of a felony and shall, upon conviction, be sentenced to the state penitentiary for not more than two (2) years nor less than one (1) year, or fined not less than two hundred dollars ($200.00) nor more than one thousand dollars ($1,000.00) or both, in the discretion of the court."

H.B. No. 120: Section 2, Chapter 222. Laws of 1954.

That if any person negligently and wantonly causes a fire to be communicated to any wood, meadow, marsh, field, or prairie, not his own, he shall be guilty of a misdemeanor and shall, on conviction, be fined not less than twenty ($20.00) nor more than five hundred dollars ($500.00), or imprisoned in the county jail not more than three (3) months, or both, in the discretion of the court.

H.B. No. 79: Section 1, Ch. 219, Laws of 1940.

Fire Suppression, Fires declared nuisances—abatement.

Any fire on any forested, cut-over, brush lands or grass lands burning uncontrolled is hereby declared a public nuisance by reason of its menace to life and property. Any person, firm, or corporation negligently or wilfully...
"willfully and with authority sets on fire . . ."; the state law refers to the person who "willfully, maliciously, and feloniously sets on fire. . . ." One law enforcement official complained to the writer that "willful, malicious, and felonious" intention however is extremely difficult to prove in court.

It appears that the recent state legislatures have taken a dim view of woods burning. Older fire suppression laws in Mississippi defined certain acts of woods burning as nuisances rather than felonies and the attendant sanctions consisted of court costs and damages rather than fines or imprisonment or both.

III. RELEVANT FINDINGS FROM THIS STUDY

Two convictions for incendiarism were obtained by fire control officials in the period just prior to the initiation of this study. These arrests and convictions resulted in one person being sent to the state penitentiary for a two-year term. There were three persons fined (one in Forrest County, two in Perry County) and, in addition, five persons were either placed on probation or given suspended sentences.13

A study of Chancery Court records was made. The findings are as follows:

Number of convictions for "Burning the Woods" since 1960--None in Perry County; two in Forrest County.

1. (1962) - Four persons charged on four different counts; one was given three 2-year sentences in penitentiary --each with probation; the other three were given penitentiary sentences of two years each, also with probation.

2. (1964) - Two persons charged; one sentenced to two-
These arrests and convictions were well known throughout the county, particularly in the Brooklyn-Carnes area.

In view of these developments it seemed to be an advantageous time to measure local attitudes relevant to law enforcement. This approach was based on the assumption that local residents would have had an opportunity to reflect upon and react to a "real life" situation rather than a hypothetical one. With these thoughts in mind, three items about law enforcement were included on the interview schedule. Each respondent was asked: (1) ARE YOU IN FAVOR OF FINING A PERSON IF THE PERSON DELIBERATELY SET FIRE TO WOODS HE DID NOT OWN? (2) ARE YOU IN FAVOR OF PUTTING THE PERSON IN JAIL? (3) DO YOU KNOW WHAT THE PENALTY IS IN THIS STATE? The respondent was requested to reply to the first two items in the following manner: (1) Yes, (2) How Much (Fining)? (3) How Long (Imprisoning)? (4) No, (5) Other.

When these items were pretested in Livingston Parish, Louisiana, they were found to stimulate very revealing years in the penitentiary with probation; one sentenced to two-years in penitentiary (now serving sentence). Number of misdemeanors regarding woods burning since 1960 - tried before J. P. Court were as follows:
1. Forrest County - one; person fined $20 and $5 court costs.
2. Perry County - two; first case--person fined $20, court costs $9.50, sentenced to 90 days in jail with suspension; second case--person fined $20, suspended, paid court cost of $14.

There have been a considerable number of cases initiated, both felony and petty offense, regarding woods burning which were subsequently dropped due to lack of evidence.
responses. The area of the pretest, it will be remembered, was similar to the Brooklyn-Carnes area in that it had a high rate of incendiaryism and was known by foresters as a "hot spot." Several Livingston Parish respondents candidly stated that they were not in favor of either imprisoning or fining woods burners. One woman contended that her answer depended upon a knowledge of whose land was being burned. The interviewer then asked, "What if the land belonged to Crown Zellerback (a large timber owner)?" "I'd let it burn," she replied.

The same items, when used in Brooklyn and Carnes, stimulated some of the most interesting responses of the entire study. The responses to these items are presented in Table XVI. The proportion of the various responses and the divergence with respect to the two communities is important in itself but, in addition, the explanations and rationalizations which the respondents offered afford a basis for the analysis of the social-psychological aspects of their behavior.

In Carnes 80 per cent of the persons interviewed felt the woods burner should be fined, 8.5 per cent felt he should not be fined, 6.7 per cent qualified their answer but generally agreed, one respondent refused and four indicated they did not know or had no opinion. When the same individuals were asked about imprisoning the woods burner, their responses were as follows: ten (9.5 per cent) stated they did not know, one refused to answer, 49.5 felt they should be
### TABLE XVI

**RESPONDENTS' ATTITUDES TOWARD FINING ARSONISTS, BY COMMUNITIES**

<table>
<thead>
<tr>
<th>Response</th>
<th>Carnes</th>
<th>Brooklyn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>84</td>
<td>97</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Qualified Yes</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Qualified No</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Refused</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Don't Know, No Response</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>104</td>
</tr>
</tbody>
</table>

\[ x^2 = 7.727 \quad \text{P} < .025 \]

\[ \text{Df} = 2 \text{ (rows 4, 5, 6 excluded from computation)} \]

\[ C = .1870 \]

### TABLE XVII

**RESPONDENTS' ATTITUDES TOWARD IMPRISONING ARSONISTS, BY COMMUNITIES**

<table>
<thead>
<tr>
<th>Response</th>
<th>Carnes</th>
<th>Brooklyn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>52</td>
<td>73</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
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<tr>
<td>Qualified No</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Refused</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Don't Know, No Response</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>104</td>
</tr>
</tbody>
</table>

\[ \text{Df} = 5 \quad \text{P} < .001 \]

\[ x^2 = .28.51781 \]

\[ C = .349 \]
imprisoned, 35.2 per cent felt they should not be imprisoned, while an additional five (4.7 per cent) respondents qualified their answers. Less than a majority (49.5 per cent) of Carnes respondents unequivocally favored imprisonment for woods burners.

Several looked with disfavor upon imprisonment, not because of the nature of the violation, but because they disliked the idea of imprisoning anyone except those who committed the most serious crimes. Of course, this response indicates the fact that these individuals did not look upon woods burning as a very serious offense.

As hypothesized, residents of Brooklyn tended to be more favorable toward law enforcement than were those in Carnes. They also favored more stringent sanctions.

Within Brooklyn, 93.2 per cent of the individuals contacted favored fining those who deliberately set fire to woods. Only 1.9 per cent of the respondents stated that they did not believe in fining woods burners. An additional 3.7 per cent stated that they did believe in fining woods burners but qualified their answer. Interestingly enough, there were no refusals to this question in the Brooklyn area and only one respondent did not respond to the item (coded, "don't know").

A total of 73 Brooklyn respondents (70.1 per cent) indicated they favored imprisoning woods burners. Eleven respondents (10.5 per cent) asserted that they did not favor imprisoning woods burners. Nine of the 104 (8.7 per
persons interviewed in Brooklyn qualified their answer but generally agreed with imprisonment as a sanction; five (4.8 per cent) gave a qualified answer but generally disagreed with imprisonment as a sanction for woods burning. There were three respondents (2.8 per cent) in Brooklyn who refused to state an opinion about imprisonment of woods burners.

It should be noted that, whereas there were only 52 Carnes respondents (49.5 per cent) who unequivocally favored imprisoning woods burners, a total of 73 Brooklyn respondents (70.1 per cent) so indicated. By comparing Brooklyn respondents with Carnes respondents on attitudes toward imprisoning woods burners, a difference significant at the .001 level of probability was found (Chi square—28.51; Degrees of Freedom—5).

The majority of respondents in both communities agreed that woods burners should be fined. Eighty-four Carnes respondents (80.0 per cent) and ninety-seven Brooklyn respondents (93.2 per cent) unequivocally favored economic sanctions. Even though the divergence of responses between communities was statistically significant (as hypothesized), forest fire control personnel should take comfort in the fact that they do have popular support for enforcement of fire laws in both communities. This fact is even more significant in view of the fact that arrests and convictions had recently been made in the very area where the survey was conducted. Arrests, moreover, had occurred in both of these
communities. This fact counters the possibility that the divergent responses between the two communities stemmed from the fact that residents of one community had first-hand experience with law enforcement and the others had not. The fact is that at least one of the arrests had occurred in Brooklyn. This event appeared to be well known throughout the Brooklyn community and the individual had relatives who still resided in the area. Yet, seventy-three (70.1 percent) respondents in Brooklyn unequivocally favored imprisoning woods burners.

In a great many instances the respondents, when asked if they favored fining woods burners, replied that they felt fire laws should be enforced "like any other law." One individual related that at one time he had burned the woods. "When they made it against the law," he continued, "I quit." Such responses, it is suggested, reflect an underlying latent attitude toward law enforcement in general. Persons who are generally "law abiding" will tend to avoid behavior defined as illegal regardless of the nature of one specific law. It is further suggested that this factor (i.e., attitudes toward law enforcement in general) is related to the divergence of responses between the two communities.

It was hoped that a method could be devised to accurately measure how intensely respondents felt about enforcement of fire laws. With this in mind, respondents who favored fining woods burners were asked how much they thought the woods burner should be fined. In like manner,
respondents who favored imprisoning woods burners were asked how long they felt they should be imprisoned.

Unfortunately, the responses to these items were not uniform enough to provide such a measure of intensity. When respondents were asked how much or how long they thought woods burners should be punished, one of the most frequent replies was, "Whatever the judge says." Occasionally they would state, "Whatever the law calls for." In a few instances they actually stated the exact penalty called for by law. Several felt that the fine should not exceed the damages.

To be sure, there was a range of responses. One twenty-year-old housewife stated the woods were so beautiful that anyone who burned should be fined $10,000. Others, who thought the woods should be burned and felt the government did not do it often enough, felt that there should be no fine at all. Persons who responded in this manner usually qualified their answer by suggesting that if a fire should get out of control, the person starting the fire should pay for the damages.

Responses tended to form a similar pattern with respect to the extent of imprisonment. "It depends on what the judge decides," was a frequent reply. In both fining and imprisoning, a number of respondents who favored such punishment stated that the age of the woods burner, his criminal record, and the extent of the damages should all be considered when the sentence was made.
These particular items, though they did not provide an accurate measure of intensity, did stimulate comments which proved to be useful in exploring other dimensions of fire prevention attitudes. This study, therefore, provides only one measure of how intensely respondents feel about enforcement of fire prevention laws, namely, whether the respondent favors fining, imprisoning, or both. Those favoring imprisonment were presumed to feel more intensely about woods burning than those who favored only fining. Correspondingly, those who favored fining were presumed to feel more intensely about woods burning than those who did not. Thus, even though a more refined measure was not devised, these items did serve as indicants of three levels of emotional intensity.

The items proved useful in separating the sample into three categories: (1) those who opposed fines; (2) those who favored fines only; (3) those who favored fines and imprisonment. Of the 209 persons interviewed 11 unequivocally opposed fining the woods burner, 48 unequivocally opposed imprisoning the woods burner. There were 179 who unequivocally favored fines and 125 who unequivocally favored jail sentences.

The 11 schedules of the respondents who did not favor fines for woods burners were singled out for separate analysis. It was presumed that these persons would tend to feel less intensely about woods burning than the other respondents. Furthermore, since it was hypothesized that these attitudes
would influence their responses to fire prevention messages, this analysis was considered to be especially relevant to the over-all objectives of the study.

No distinct pattern, however, was discerned. The responses did tend to be more negative than those observed for the entire universe, but the small number of respondents in this category ruled out the possibility of appropriately using very refined statistical techniques.

Four of the eleven respondents thought the fire control agencies were doing a "good" job, four judged it "average," one judged it "poor," but two of the eleven felt an "excellent" job was being done. Again, six of the eleven felt too much of the county was in forest land, four did not, one had no opinion. Six reported they had seen or heard about fire prevention within the last six months; five reported seeing or hearing nothing. By contrast, only 35.3 per cent of those favoring fines stated they had seen or heard nothing about fire prevention. This difference, though not statistically significant was in the direction predicted.

Only two of the respondents in the non-fining category were able to correctly identify the sign placed within the community. Five of the eleven felt they were turned to for advice of information; one answered "occasionally"; and five indicated they were not sought for advice or information.

The two non-fining respondents from the Brooklyn area were especially interesting. One was atypical when compared with others in the category. He was a 53-year-old landowner
### TABLE XVIII

RESPONDENTS' RANKING OF FOREST RANGER, BY ATTITUDES TOWARD FINING ARSONISTS

<table>
<thead>
<tr>
<th>Ranking of Ranger</th>
<th>Attitudes Toward Fining</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approve (N = 198) Per Cent</td>
<td>Disapprove (N = 11) Per Cent</td>
</tr>
<tr>
<td>First</td>
<td>17.7</td>
<td>9.1</td>
</tr>
<tr>
<td>Second</td>
<td>19.2</td>
<td>27.3</td>
</tr>
<tr>
<td>Third</td>
<td>17.7</td>
<td>18.2</td>
</tr>
<tr>
<td>Fourth</td>
<td>15.2</td>
<td>18.2</td>
</tr>
<tr>
<td>Fifth</td>
<td>11.6</td>
<td>--</td>
</tr>
<tr>
<td>Sixth</td>
<td>8.6</td>
<td>18.2</td>
</tr>
<tr>
<td>Seventh</td>
<td>5.6</td>
<td>9.1</td>
</tr>
<tr>
<td>Don't Know or No Response</td>
<td>4.5</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
### TABLE XIX

RESPONDENTS' CORRECT IDENTIFICATION OF FIRE PREVENTION POSTER, BY ATTITUDES TOWARD FINING ARSONISTS

<table>
<thead>
<tr>
<th>Identification of Poster</th>
<th>Approve (N = 198)</th>
<th>Disapprove (N = 11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per Cent</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Correct</td>
<td>24.7</td>
<td>18.2</td>
</tr>
<tr>
<td>Incorrect</td>
<td>38.8</td>
<td>27.3</td>
</tr>
<tr>
<td>Don't Know or No Response</td>
<td>63.5</td>
<td>54.5</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### TABLE XX

RESPONDENTS' REPORTED OBSERVATION OF FIRE PREVENTION MESSAGES, BY ATTITUDES TOWARD FINING ARSONISTS

<table>
<thead>
<tr>
<th>Response</th>
<th>Approve (N = 198)</th>
<th>Disapprove (N = 11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per Cent</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Yes</td>
<td>64.7</td>
<td>54.5</td>
</tr>
<tr>
<td>No\textsuperscript{a}</td>
<td>35.3</td>
<td>45.4</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ x^2 = .43 \quad \text{Df} = 1 \]

\textsuperscript{a}Includes 15 schedules coded "don't know" or no response plus three schedules coded "undecided."
TABLE XXI

RESPONDENTS' RATING OF FIRE CONTROL IN SAMPLE AREA, BY ATTITUDES TOWARD FINING ARSONISTS

<table>
<thead>
<tr>
<th>Rating</th>
<th>Attitude Toward Fining</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Approve (N = 198)</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Excellent</td>
<td></td>
<td>38.9</td>
<td>18.2</td>
</tr>
<tr>
<td>Good</td>
<td></td>
<td>42.8</td>
<td>36.4</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>9.6</td>
<td>36.4</td>
</tr>
<tr>
<td>Somewhat Below Average</td>
<td></td>
<td>1.0</td>
<td>--</td>
</tr>
<tr>
<td>Poor</td>
<td></td>
<td>3.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Other, e.g., &quot;Fair&quot;</td>
<td></td>
<td>2.0</td>
<td>--</td>
</tr>
<tr>
<td>Don't Know or No Response</td>
<td></td>
<td>2.5</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

$X^2 = 4.91$

Df = 1 (Excellent--Good vs. Non-Excellent--Good)

$C = .1516$

$P < .025$
who had lived forty years in the Brooklyn community. He ranked the forest ranger first in desirability, rated forest fire control agencies "excellent," and did not feel too much of the county was in forest land. Each of these responses, it will be noted, was very positive. Furthermore, he had observed fire prevention messages within the previous six months, and reported that he had seen the poster placed in his community (though he could not correctly identify it). Nevertheless, he unequivocally disapproved of fining and imprisonment for woods burners. His explanation: "I couldn't, for my conscience would hurt me! I wouldn't want to put anyone in jail."

In contrast to this response, he interpreted the fourth fire prevention message (Help Stop the Malicious Woods Burner) to mean, "Fire destroys young pines and a fire burner should be reported." It is presumed that his opposition to fining and imprisonment stemmed, not from anti-forestry attitudes, but rather from strong religious attitudes.

Certain facts support this explanation. This respondent reported being an active member of a local missionary Baptist Church plus holding an important position. He owned neither radio nor television. When asked about newspapers and magazines he replied, "I read my Bible; I am a foot-washing Baptist."

The other respondent from the Brooklyn area who indicated disapproval of fining and imprisonment appeared to
be typical of those with anti-forestry attitudes. He was a 52-year-old truck driver who ranked forest rangers seventh in desirability. He felt the forest fire control agencies were doing a "good" job but contradicted his ranking by adding, "We really don't need rangers. We could burn insects before rangers came. We have rattlesnakes now!" He felt the amount of money returned to the county was a fair share, but indicated that too much of the county was in forest land. "The government owns too much," he asserted. "The only way to get land is through a nigger, for he can get land." The latter response, incidentally, was one of the few clear instances where racial attitudes were directly associated with forestry attitudes.

The respondent's attitude toward the forest fire control agency was succinctly summarized as follows, "I don't start any fires or put any out. I don't tell any ranger anything." Furthermore, his response was consistent with respect to the fourth message ("The South is Robbed by the Malicious Woods Burner: Help Stop Him."): "I don't think this is true. No one sets fire for the fun of it."

Certain other characteristics of this individual tend to be identical with the stereotype law enforcement officials generally hold of arsonists and their sympathizers. His income was less than $5,000 yearly; he read no newspapers or magazines regularly, belonged to no organization and attended no church. His self-identification was that of a "working class" individual. Furthermore, he felt he was not
asked for advice or information.

It seems clear that individuals with characteristics similar to this person will be difficult to reach through conventional approaches. These persons do tend to have contact with television (and sometimes printed media) but this a tenuous link with the larger social system. Mass media effectiveness in changing forestry attitudes is probably minimized by means of factors known as the selective processes. Then, too, latent hostility for rangers tends to minimize the effectiveness of personal contact. One hopeful fact is that the number of persons with these attitudes is relatively small.

IV. CONCLUSION

Generally, inducing compliance by means of rewards and punishment is relatively inefficient, because in order to insure continued compliance, rewards or punishment must also be continued indefinitely—and often in increasing doses. An indulgent mother must keep on doling out candy; the tough foreman can never relax. It would be more efficient and desirable if society could somehow induce individuals to voluntarily choose to do things that should be done and refrain from activities defined by society as undesirable.

Recently social scientists\(^{14}\) have been experimenting

\(^{14}\)Eliot Aronson, "Threat and Obedience," Trans-
Action, 3 (March-April, 1966), 25.
with a technique of persuasion—or self-persuasion. It has been developed from Leon Festinger's theory of "cognitive dissonance" which states that when a person simultaneously holds two incompatible ideas (cognitions), dissonance occurs. This creates internal tension. The tension is so unpleasant that the individual tries to diminish it by reducing the dissonance. This may be done by means of changing one of the ideas so as to bring them closer together and make them more compatible.

The principle is illustrated as follows. Suppose a person who generally regards himself as truthful lies to another. Dissonance is set up; one way to reduce it is to rationalize or justify the lie. If the person receives little or no reward for lying, he will tend to have a great deal of dissonance and will much more likely change his prior attitudes to cut down tension. It has been found, from recent experiments that people who tell a lie and get only small rewards for them undergo greater changes in attitude than those who tell the same lie for large rewards.15

Dissonance theory has been applied to the problem of punishment in order to understand more about the relationship between attitude change and the degree of punishment involved. Preliminary findings have been based on child behavior studies. It has been found, among other things,

that (a) the more severe the threat, the greater the like-
lihood the child will refrain from prohibited behavior so
long as the child knows he is being watched; (b) by means of
reducing the threat the attractiveness of a forbidden object
is reduced. That is, when milder threats are used, the
object is devalued by the subject.

The experimenters suggest that the results of their
studies might be replicated using more important value
systems. Practical applications of the results, they admit,
hinge on the subtle problem of finding precisely the correct
amount of threatened punishment needed—a threat severe
enough to induce momentary compliance yet mild enough to
provide inadequate justification for compliance (thereby
creating dissonance and consequent attitudinal change).

Is it possible that there is a potential application
of this principle to woods burning behavior? With vast
stretches of timber to protect, the fire control agencies
simply cannot prevent fires if enough persons deliberately
choose to burn the woods. It is a sheer physical impossi-
bility to watch everyone all the time. Harsh penalties
alone may not be the answer. Stringent penalties have been
known to make deviant behavior more attractive—especially
for those seeking adventure. In the present study, however,
the recent arrests and convictions do appear to be a factor
in reducing the number of forest fires.

A technique which would cause individuals to devalue
woods burning activity—in effect to say, "I didn't want to
do it anyway"—would certainly be welcomed. Researchers who carry on subsequent research in the field may want to follow up this lead. As Elliot Aronson has put it, "Clearly, more research is needed before we can determine whether these techniques can bring about either a more efficient, more civilized society or an Orwellian nightmare."16

16 Ibid., p. 27.
CHAPTER VII

THE SELECTIVE PROCESSES

In the review of the literature, attention was called to a phenomenon which certain writers spoke of as "the selective processes." Further reading of these sources suggested that this phenomenon might be involved in the process of sending-receiving fire prevention messages and that it also might "account" for the differential results that had been obtained in response to fire prevention programs.

The findings derived from an investigation of the selective processes in two forest communities are reported in this chapter. The results of testing two research hypotheses, implicit to the investigation, are also presented.

I. SELECTIVE PERCEPTION

Actual recognition of the phenomenon of selective perception antedates modern studies of mass communication. Laboratory demonstrations have established the fact that perception of such things as moving lights, relative size of coins, and the relative length of lines is in part or whole influenced by what persons want to perceive, or have

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habitually perceived. Expectations of social or physical reward have also been shown to influence perception. Furthermore, experiments have been conducted in which various devices have been used to elicit apparently wholly sincere reports of perception quite out of accord with the facts.

One of the classic studies is that of Allport and Postman. In their study of the metamorphosis of rumors they presented virtual case histories of oral messages which were changed in the process of social diffusion to fit existing attitudes, predispositions and levels of knowledge. In one phase of the study respondents were shown a picture of an altercation which depicted a white man holding a razor and arguing with a Negro. The subjects were required to describe the scene to other subjects who were in turn required to describe it to others. As a result of the successive narrations, the razor typically shifted to the hand of the Negro. The researchers concluded that material which does not fit the predispositions of a perceiver is likely to be recast to fit not only his span of comprehension and retention but likewise his own personal needs and interests.

Mass communication has been found vulnerable to similarly selective perception. Wilner, for instance, found that subjects interpreted the expressions and motives of

---

characters in a pro-tolerance film ("Home of the Brave") in ways which were largely predictable on the basis of their scores on a racial tolerance test.²

In a recent study conducted in Ann Arbor, Michigan, a similar finding was reported. In that study, smokers were not as likely to perceive the relationship between smoking and cancer as were non-smokers who had read identical newspaper and magazine reports.³ Other examples of selective perception are to be found in the literature, although its occurrence is not the central finding of very many studies.

The presence of the phenomenon known as selective perception appeared to be quite pronounced in the present study. Analysis of the data brought it into even clearer perspective. Several statements stimulated various kinds of perceptions, apparently in terms of the respondents' cognitive structure.

II. RESPONSES TO FIRE PREVENTION SLOGANS

One phase of the study consisted of reading four widely used fire prevention slogans to the respondent. He was then asked to tell what the slogans meant. The


statements were read as follows:

1. Forest Fires Destroy Watersheds.
2. Please, Only You Can Prevent Forest Fires.
4. The South is Robbed by the Malicious Woods Burner: Help Stop Him.

(When these statements are referred to in the following paragraphs, they will be referred to by the numbers given here.)

Quite frequently the response was not a simple explanation but a value judgment as well. In fact, coding the responses involved ten alternatives:

1. Don't know or no response.
2. Value judgment only—positive.
3. Value judgment only—negative.
4. Personal application.
5. Content only—correct.
6. Content only—incorrect.
7. Content correct plus positive value judgment.
8. Content correct plus negative value judgment.
9. Content incorrect plus positive value judgment.
10. Content incorrect plus negative value judgment.

In addition to the ten logical alternatives, it was found that some respondents displayed ambivalence with regard to the slogans, agreeing with some portions and disagreeing with others.

One of the slogans proved to be especially interesting: "Forest Fires Destroy Watersheds." This slogan was printed
on a well-constructed Forest Service sign located approximately one mile from the center of Carnes community on the asphalt road connecting Carnes with Brooklyn.

At the beginning of the study it was felt that the choice of this particular slogan for the Carnes-Brooklyn area was probably a tactical mistake since the concept of "watershed" was presumably beyond the knowledge level of the local indigenous population. The results however were somewhat surprising. Even though the majority of respondents from the Carnes community had only a ninth grade education or less, an unexpectedly high number of respondents were familiar with the concept (watershed) and could give a reasonably accurate explanation of the statement.

Final tabulation of the responses indicate that 47 of the 105 subjects interviewed in Carnes gave a response which was judged to be accurate while an additional two subjects were coded "content correct plus value judgment." Approximately the same distribution was found in the Brooklyn community (see Table XXII). It is worthy to note that the percentage of persons giving a correct explanation of the slogan was not appreciably higher in Brooklyn even though the education level in Brooklyn was higher than Carnes. A possible explanation of this finding is that the location of the sign in the Carnes community stimulated curiosity and interest on the part of nearby residents. They thus were motivated to seek an explanation for the slogan and probably turned to foresters, county agents, school teachers, and
other individuals who were able to provide relevant information.

TABLE XXII

DISTRIBUTION OF RESPONSES TO THE SLOGAN, "FOREST FIRES DESTROY WATERSHEDS," BY COMMUNITIES

<table>
<thead>
<tr>
<th>Type of Response</th>
<th>Community</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Carnes</td>
<td>Brooklyn</td>
</tr>
<tr>
<td>Don't Know or No Response</td>
<td>32</td>
<td>38</td>
</tr>
<tr>
<td>Value Judgment Only—Positive</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Value Judgment Only—Negative</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Content Correct—No Value Judgment</td>
<td>47</td>
<td>46</td>
</tr>
<tr>
<td>Content Incorrect—No Value Judgment</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Personal Application</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Content Correct plus Positive Value Judgment</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Content Correct plus Negative Value Judgment</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Content Incorrect plus Positive Value Judgment</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Content Incorrect plus Negative Value Judgment</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>104</td>
</tr>
</tbody>
</table>

It is conceivable that a much higher number of persons did not know what a watershed was before the sign was placed in the community. It may be safe to suggest that the introduction of unfamiliar material in Forest Service propaganda, if it is permanently displayed and relatively accessible, may serve to stimulate increased interest in the subject.

A number of respondents were able to elaborate on the subject and explain that fire destroys the undergrowth which
holds the water supply and brings about erosion. Others men­tioned that the rapid run-off of water which occurred in burned areas was detrimental to the area. On the whole the respondents showed a surprisingly-high level of understanding about the subject. It is interesting to note, however, that some felt a watershed was some kind of a building which was constructed in the forest. Others simply indicated that they did not know what the slogan meant. This slogan also stimu­lated some distortion and a few respondents gave value judg­ments when the slogan was read.

Response to the slogan, "Please, Only You Can Prevent Forest Fires" (second statement) was generally uniform. The slogan, "Fire Destroys Wildlife" (third statement) generally stimulated uniform response though some respondents distorted the slogan or qualified it in various ways. The fourth slogan proved to be very interesting especially with regard to the ways in which the subject suggested that the malicious woods burner should be stopped.

A frame of reference for analyzing the various re­sponses is provided by the logical categories suggested in the coding routine. The following paragraphs provide examples of some of the typical statements as well as some of the unusually perceptive ones.
Slogans Understood: Stimuli for Negative Response

In several instances it was clear that the respondent understood the content of the message yet disagreed with the message presented. Such a response was recorded in the Carnes community when the fourth slogan was read. The respondent was thirty-six years of age, had completed the eighth grade, had lived in the community for thirty-six years, and owned a farm which contained 160 acres. Though the respondent was very cooperative, he had strong negative attitudes about fire control agencies. It was later learned that he had been convicted for woods burning (two years before the interview was conducted) and had been given a suspended sentence. (Some of the neighbors did not believe that he was guilty.) He was a dairyman with forty-five dairy cattle. When asked what kind of job he thought the forest fire control agencies were doing in the area, he responded, "poor."

"The South never was robbed until they quit burning the woods. People can't have hogs or cattle or sheep because of the ticks." This was his response to the fourth slogan. It is rather clear that he understood the message but that he disagreed with it heartily.

Slogans Understood: Stimuli for Positive Response

Many of the respondents revealed a knowledge of the content of the message and then indicated an agreement with
### TABLE XXIII

**DISTRIBUTION OF RESPONSES TO THE SLOGAN, "THE SOUTH IS ROBBED BY THE MALICIOUS WOODS BURNER: HELP STOP HIM," BY COMMUNITIES**

<table>
<thead>
<tr>
<th>Type of Response</th>
<th>Community</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Carnes</td>
<td>Brooklyn</td>
<td></td>
</tr>
<tr>
<td>Don't Know or No Response</td>
<td>6</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Value Judgment Only--Positive</td>
<td>17</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Value Judgment Only--Negative</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Personal Application</td>
<td>12</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Content Correct--No Value Judgment</td>
<td>42</td>
<td>41</td>
<td>83</td>
</tr>
<tr>
<td>Content Incorrect--No Value Judgment</td>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Content Correct plus Positive Value Judgment</td>
<td>8</td>
<td>42</td>
<td>50</td>
</tr>
<tr>
<td>Content Correct plus Negative Value Judgment</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Content Incorrect plus Positive Value Judgment</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Content Incorrect plus Negative Value Judgment</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>104</td>
<td>209</td>
</tr>
</tbody>
</table>

One such respondent was a Negro who lived in the Brooklyn community, forty-seven years of age, unemployed, who described himself as a "handyman." He had lived in the community twenty-five years and owned twenty acres of land. Though he rated the forest ranger sixth, he indicated that he felt the fire control agencies were doing an "excellent" job in the area. In fact, he stated that they were like a "fire department" to him.

When he was read the third statement he responded, "Fire destroys deer, quails, and all animals and that's why I'm glad we have protection." Here we see an understanding...
of the statement and an agreement with the statement.

A similar response was recorded in the Carnes community. The interview was conducted in a home which the interviewer felt was so small he did not see how ten people could possibly live in it. The outside of the house was trash filled, the car was not in running order, and the head of the house listed his income in 1964 as less than $2,000. When he was read the fourth statement he responded, "He needs to be stopped in any way possible." Again, here is evidence that the message had been correctly perceived and the respondent agreed with it.

Some of the respondents elaborated on the statements. One of the persons in the Carnes community elaborated (on the fourth statement) that the South was robbed because of the industry that was lost and because of the loss of material which was used in building homes. Another stated that, "this (timber) is all the South has and we should do our best to take care of it."

When read the third slogan some explained that fire destroyed the food which the animals needed for survival. One stated, "It doesn't leave the animals anywhere to live. It is like burning their house." These are just a few of the many responses that could be used to illustrate this type of response. Indeed, the majority of responses appeared to fall into this category.
Slogans Misunderstood: Stimuli for Negative Response

Occasionally it was evident that the message was not clearly understood yet the response was negative. An explanation of this response lies in the unique cognitive structure of the individual; he tends to be critical of anything associated with the fire control agencies.

One of the clearest examples is afforded by the response of an individual (described earlier) from the Carnes community. He had been previously convicted of woods burning and was critical of the total fire control effort in the area. When read the first slogan he replied, "I don't believe it." When the interviewer questioned him about the meaning of a watershed, he replied that a watershed was "the shades over the water." Thus, even though he did not understand the exact meaning of the message, he perceived its source as the fire control agencies; hence, he reacted in a negative manner.

Slogans Misunderstood: Stimuli for Positive Reaction

Just as some individuals tended to react unfavorably to anything connected with fire control, some individuals were likely to agree with anything which tended to be favorable to the effort. These individuals apparently interpreted the statements in the over-all context of the U. S. Forest Service and reacted favorably to the statements even though
they did not fully comprehend their meaning. One individual, a resident of the Carnes community for thirty years responded, "I agree," when read the first statement. He felt that the Forest Service was doing a "good job" in the area and ranked the forest ranger third. Though he indicated a strong agreement with the first statement, when questioned, he admitted that he had no idea what a watershed was.

This response, though opposite in quality from the one described in the previous section, is explained by the same underlying principle; i.e., the recipient's perception of the communicator. Since he tended to be favorable toward the Forest Service, he tended to be positive in his response to their messages even though they were not clearly understood.

Value Judgments Only

Some of the respondents would not attempt to explain what the slogans meant but merely agreed or disagreed with them. This was true even though the interviewers attempted to gain additional statements and explanations from them. One man from the Carnes community, thirty-nine years of age, with a tenth grade education responded, "I wouldn't think so" when he was read the fourth slogan. He consistently revealed a negative attitude toward the Forest Service, ranked the forest ranger lowest of all the other occupations read, and stated, "They push people around." Furthermore, he asserted disbelief in imprisoning woods burners; he stated that he
did not know what kind of job the forest fire control agencies were doing in the area. From his response to other slogans it is evident that he had an intelligent comprehension of the content of the messages; for example, he stated that fires caused erosion, as a response to the first statement (an insight which approximately half the respondents were unaware of).

It is clear, then, that he simply disagreed with the statement and did not feel inclined to explain or elaborate. It is safe to assume that he either ignores or disagrees with the slogans whenever they appear and they are probably ineffective in changing his woods behavior.

Value Judgments Only—Positive

Though there were few who gave negative value judgments only when the statements were read (the highest total for any one slogan was five such responses), the number was considerably higher for those who gave only a positive value judgment. Those who disagreed usually felt a need to explain their statement.

For the entire study (which included 209 interviews), there was a total of sixty-five responses where only a positive value judgment was recorded. This ranged from six such responses for the statement concerning watersheds to a total of twenty-three such responses for the statement, "Fire Destroys Wildlife." This result would indicate that the value judgment was not simply a way for disguising ignorance
of the message's content since the watershed statement had the smallest number of such responses.

Ambivalence and Distortion

Quite frequently interviews were conducted where the subject agreed in part with the statement and disagreed in part. Such was the case when a fifty-one-year-old woman from the Carnes community was interviewed. She had lived in the community twenty-five years, had completed the eighth grade, and was married to a woods worker employed by one of the small local firms. She felt that the forest fire control agencies were doing an "average" job in the area but was not in favor of fining a person who deliberately set fire to the woods he did not own. In fact she responded, "I would be scared to fine him."

Her family was apparently very religious; the husband was a Sunday school superintendent at a local Baptist church --their only magazines and periodicals were listed as the Bible and religious literature. It would seem that the family knew certain persons who were woods burners and were possibly intimidated by them.

Ambivalence toward the goals of the fire control agencies is clearly revealed in her response to the slogans. When the third slogan (Fire Destroys Wildlife) was read, she replied, "Yeah, but the snakes need to be killed." This response indicated a recognition of the danger of fire to woods animals and game but an allegiance to a common
rationale for woods burning; i.e., that fires destroy insects and snakes. When the fourth slogan was read (The South is Robbed by the Malicious Woods Burner: Help Stop Him) she responded, "Oh yeah! But it depends on where they start them." This type response was uniform for the entire interview.

Ambivalence was also noted in the responses of another person from the Carnes community though his responses were more decidedly negative than the ones in the interview just cited. When the third slogan (Fire Destroys Wildlife) was read to him he replied, "In some it (fire) does; then, it helps by killing snakes, ticks and fire is good for quails. In other responses he indicated a decidedly negative attitude toward the Forest Service.

This type of response was not limited to the Carnes community for it was noted almost as frequently in Brooklyn as well. A seventy-one-year-old Brooklyn man who had worked with the Forest Service for fifteen years and had since retired revealed ambivalence on three of the slogans which were read to him. Even though he had worked for the Forest Service he ranked forest rangers sixth along with clerk in store stating, "I don't think anything of either one. There's no job in it; they don't do nothing but just throw away good time." He felt that the forest fire control agencies were doing an "average" job in spite of the fact that he added, "They haven't done no good, the people have done it themselves."
His response to "Please, Only You Can Prevent Forest Fires" was, "This reminds us not to burn the woods except at specific times under controlled conditions." When the third slogan was read he replied, "If the woods are burned the quail won't reproduce and the eggs are destroyed. If the woods are not burned periodically, however, the ticks will take over." When the fourth statement was made (The Malicious Woods Burner) the response was, "True to a certain extent. A lot of burning is strictly for meanness."

A fairly consistent pattern was thus noted. It would appear that persons who respond in this way are not affected in any significant way by the messages which are displayed. The messages are simply distorted or readjusted to fit the particular needs and predispositions of the respondent.

Instances of distortion were quite frequent when the last statement was read to the subjects. The slogan, "The South is Robbed by the Malicious Woods Burner: Help Stop Him," stimulated a range of responses which varied widely with regard to the manner in which the malicious woods burner should be stopped. Some felt he should be educated, some thought he should be reported, some felt he should be fined, while others felt he should pay for the damages or else be sent to the penitentiary. The specific explanations were not requested by the interviewers but were voluntarily suggested by the subjects themselves in response to the reading of the statement.

These responses (the voluntary explanations) confirm
previous experimental studies of perception which indicate that separate cognitions of the individual about objects, messages, and persons in his world develop into systems of cognitions. It is these systems that direct the social actions of the individual. The person's mental world is typically made up of systems of cognitions; it is rare indeed to find a single cognition "living a life of its own." A person's cognition cannot be understood except with respect to the properties of the system to which the cognition exists for him.

This part-whole relation is manifested in simple perception as well as in more complex cognitions. Thus, an individual's response to the fourth slogan is better understood when we know how he feels about fining or imprisoning woods burners as well as his feelings about other Forest Service goals and aims.

Some did not feel that anyone should be imprisoned. It is safe then to anticipate that their response to slogan four would differ from that of another who did favor imprisoning law offenders.

Here are some typical responses to the fourth slogan: one respondent appeared to be very concerned for the welfare of the law breaker and stated, "You should warn as to what may happen to him." Another did not have such kind feelings for the woods burner and replied, "Some people are just looking for trouble and I can report people like this." It is interesting to note that this particular response was
derived from a stereotype of the woods burner as a mean, dishonest person looking for trouble.

One of the most extreme responses to the fourth statement was the following: "You have got to catch those _____. Fill his ____ full of buckshot!" This individual was a member of the Brooklyn community, seventy-seven years of age who ranked the forest ranger second. He thought that the forest fire control area agencies were doing an "average" job in the area. He added, "A lot they are doing I don't approve. They don't burn the woods as they should." On other items he was consistent for he did indicate that he favored fining and imprisoning woods burners. The respondent was a member of the Baptist church but did not attend half or more of the meetings. He added that he was a "sorry" member. His former employment was with the Forrest County as a road worker. He indicated that he was "working or middle" class and that he was sought for advice and information.

Another strong reaction was given by an eighteen-year-old boy who lived in Brooklyn. He ranked forest ranger fifth and rated the fire control agencies as doing a "good" job in the area. He favored fining and imprisoning the woods burner. His response to the fourth slogan was: "Report and convict the burners."

A much more moderate position was taken by a fifty-seven-year-old housewife in the Brooklyn community who responded to the fourth statement in the following manner:
"The timber is ruined and the game is lost! Education is the most important thing." This particular subject had a twelfth grade education, the family income in 1964 was between $3,000-4,999 and was a "working" class family. It should be remembered in each of these instances that the suggestions as to the way in which the malicious woods burner should be stopped was a voluntary response to the reading of the statement.

One respondent suggested that the woods burner should be warned. Another respondent suggested that they should be "corrected." Her full response is as follows: "We should be careful ourselves and then if others are careless, we should correct them." It is possible that this respondent did not fully comprehend the meaning of the word malicious though such an explanation is not certain; an eleventh grade education was indicated and several magazines and newspapers regularly came to the home. She did indicate on other items that she favored fining and imprisoning the woods burner.

Another respondent replied, "The only way to stop him is by law." This individual was a seventy-year-old man from the Brooklyn community who listed one year of college as his educational level. He rated forest ranger "first," thought the forest fire control agencies were doing an "excellent" job in the area, knew the correct per cent of money returned to the county from the Forest Service, and favored fining and imprisoning the woods burner. Furthermore, he was able to correctly identify the signs which had been placed in his
community, subscribed to two newspapers and three magazines and was employed by the U. S. Post Office.

Other examples could be used, but an indication of the range of responses is indicated in the preceding paragraphs. They substantiate what has been previously suggested (and in some cases experimentally confirmed) in the communication literature. The principle of selective perceptive selection thus tends to be very much in evidence when local inhabitants of forest regions are confronted with fire prevention messages.

To recapitulate: they are understood and stimulate positive response; they are understood and stimulate negative response; they are misunderstood and stimulate positive response; they are misunderstood and stimulate negative response; they stimulate value judgments positive and negative; they are distorted in terms of the cognitive structure of the receiver.

III. RESULTS OF THE MASS MEDIA SYMBOL EXPERIMENT

During the course of each interview the respondents were requested to identify, on the basis of photographic reproductions, six mass media symbols. The mass media symbols selected for the experiment were the Greyhound (Greyhound Bus Lines), Elsie the Borden Cow, the Jolly Green Giant, Smokey the Bear, the RCA Dog and Phonograph, and the Chevrolet emblem. It was felt that these were probably among the best known symbols employed by organizations in the U. S. today.

Four of the symbols selected were similar in that they
were animals (the Greyhound, Elsie the Borden Cow, Smokey the Bear, and the RCA Dog and Phonograph). The organizations represented by the symbols were varied so that a cross-section of mass media symbols utilized in the U. S. would be presented.

Whenever a name was formally associated with a particular symbol, the printing of the name was photographically removed. If the symbol had a name (such as "Elsie"), both the name and the organization represented were requested by the interviewer.

The data from the mass media symbol experiment were useful in more than one respect. First, it was possible, by means of the relative frequencies, to determine the extent to which the fire prevention symbol—Smokey the Bear—was recognized by rural residents of Southern Mississippi.

The majority of the symbols utilized in the experiment had been in use longer than the fire prevention symbol. Each, with the exception of Smokey, was promoted by means of commercial advertising whereas Smokey the Bear usually appeared in the mass media as a public service feature.

The fire prevention symbol, despite the disadvantages of its relatively briefer national exposure and a non-commercial (public service) base, fared quite well when compared with the other symbols. On the basis of correct identifications, it was found that 82.3 per cent of the subjects knew the name of the fire prevention symbol and could tell what was symbolized (e.g., "fire prevention," "forestry," "the
Forest Service). An additional 7.1 per cent of the respondents made partial identifications, that is, they knew what was represented but did not know the name of the symbol or vice versa. Thus, only 10.6 per cent of the respondents had no apparent conception of the identification or meaning of the fire prevention symbol. (The average age of these persons was 69.9 years.)

There was no statistically significant variation between the two study communities with respect to the number of respondents' correct identifications of the fire prevention symbol. There were 87 correct identifications plus 8 partial identifications by Carnes residents. There were 85 correct identifications plus 7 partial identifications by Brooklyn residents.

The fire prevention symbol ranked second in terms of relative frequencies of respondents' correct identifications when partial or incomplete responses were omitted from tabulations (Greyhound—first; Elsie the Borden Cow—third). The number of correct identifications when partial or incomplete responses were included in the tabulations was exactly equal for Smokey the Bear and for Elsie the Borden Cow (Greyhound—third).

A second application was made of the findings. The proportion of each respondent's correct identifications proved the data for an individual score which was arbitrarily designated an "alertness score." Such a designation was based on the assumption that individuals with a poor score
(computed on the basis of the relative number of correct symbol identifications) would tend not to be "alert" to mass media symbols in general. On this basis, such individuals would not be expected to recognize mass media fire prevention messages since they presumably would not be alert to any mass media messages.

This information (i.e., the individual "alertness" scores) was applied in the poster experiment. The scores were used in testing the hypothesis that differential perception recall rates of the residents of the two communities were related to differentials between the two communities with respect to the residents' over-all alertness to mass media messages. It was found that there was no statistically significant difference between the two communities with respect to respondents' "alertness" scores (chi square = 6.21187; Df = 6, $P < .25$). Thus, the proportion of residents who could be considered "alert" to mass media symbols was virtually the same in both communities. It was therefore concluded that variation between the communities with respect to the residents' perception-recall of fire prevention messages is not totally dependent upon residents' alertness to the mass media.
IV. RESULTS OF THE POSTER EXPERIMENT: FINDINGS RELEVANT TO THE SECOND RESEARCH HYPOTHESIS

The second research hypothesis was that fire prevention messages tend to be perceived-recalled with greater frequency and/or distorted with less frequency in areas of low incendiary rates than in areas of high incendiary rates.

It will be recalled that visual aids were utilized in measuring levels of perception-retention of fire prevention messages. Four identical fire prevention posters (64-CFP-4A) were placed at conspicuous places in the study area--two in each community. Two weeks after installing the posters the field work began.

During the interview, each subject was asked, "Are there any fire prevention signs or posters around here?" Then each was asked, "What does the sign say?" and "Is there a picture on the sign (or poster)?" If these questions were answered affirmatively the respondent was requested to describe the poster.

Then the interviewer displayed the photographs of four fire prevention posters, one of which was the correct choice. The respondent was asked, "Have you seen one of these in the neighborhood or not?" upon replying, the respondent was told to identify the one he had seen. Interviewers then wrote the results of the test on the schedule form.
One element of the experiment proved to be of little value. Very few of the respondents would even attempt to describe the poster. Those who did often obviously confused it with other signs and posters within the area. Thus, this part of the experiment, which had been designed to make possible a measure of selective distortion (i.e., the manner in which subjects distort messages to "fit" their cognitive structure) had negligible utility.

A further limitation of the experiment stemmed from the necessity of having to make the dubious assumption that all individuals would have had equal exposure to the posters. An attempt was made to place the posters in conspicuous places within each community, but even so, the residents traveled by the poster sites at differential rates. Some respondents probably never had the opportunity to see the posters at all. It was assumed that the differential exposure rates were equal in both communities, but it is not known that this was the case. (In the perception experiment conducted in the school, it was not necessary to make this assumption.)

Nevertheless, it was found that, as hypothesized, fire prevention messages were perceived-recalled with greater frequency in Brooklyn than in Carnes. In Carnes there were 19 correct identifications, 34 incorrect identifications, and 52 non-responses. In Brooklyn, by contrast, there were 30 correct identifications, 36 incorrect identifications, and 37 non-responses. The difference between these proportions
was significant at the .05 level of probability and was in
the direction predicted. (Chi square = 5.261; Df = 2; N =
208; P < .05; one tailed test.) The null hypothesis was
rejected and it was therefore concluded that there is a
difference between the communities with respect to respon-
dents perception-recall of fire prevention messages.

The second phase of the experiment involved request-
ing school children from the two communities to identify the
fire prevention poster on the basis of individual recall
processes. The fact that high school children from both
study communities attended the Brooklyn Agricultural High
School made for practically ideal experimental conditions.
The writer wished to know whether perception recall rate
differentials would occur when school children from the two
communities participated in the experiment.

Permission was therefore secured for an experiment
and several copies of the poster utilized in the experi-
ment just described, (64-CFFP-4A) were placed in conspicuous
places along the hallways of the high school by the
principal. The fact that these posters were an element of
the perception-recall experiment test was not divulged to
the students.

On the day of the experiment all 50 ninth graders
were brought into a separate room. Included in the group
were 16 students from Brooklyn and 15 from Carnes. In
addition there were 11 students from McLaurin Community and
8 students who lived in other nearby communities and
neighborhoods. One by one these students were shown the photographs of the four posters and were asked to choose the one they had seen.

It was found that 9 of the 16 Brooklyn residents made correct identifications whereas only 5 of the 15 Carnes residents made correct identifications. Seven of the 19 residents from the other communities made correct identifications. The difference between these proportions was not statistically significant. (Chi square = 2.001; Df = 2; P < .25; one tailed test.) The direction of the findings, however, was in accord with the expectation that a larger proportion of students from Brooklyn would be able to correctly recall the poster than those from Carnes.

V. RESULTS OF THE POSTER EXPERIMENT: FINDINGS RELEVANT TO THE THIRD RESEARCH HYPOTHESIS

The third research hypothesis was that individuals who perceive-recall fire prevention messages tend to be characterized by high socio-economic status and favorable attitudes toward forestry activities. Data from the poster experiment conducted in the two communities were utilized in testing this hypothesis.

Analysis was carried out by the technique of elaboration by partials.\textsuperscript{4} By means of the analytical model, \textsuperscript{4}\textsuperscript{For a description of the technique, see Herbert Hyman, \textit{Survey Design and Analysis} (Glencoe, Ill.: Free Press, 1955), pp. 242-329.}
perception-recall was hypothesized to be dependent upon respondents' attitudes toward forestry. Variables appropriate to the model were successively introduced in order to examine the resulting interrelationships between all of the factors. These variables were: (1) socio-economic status, measured by respondents' reported annual income and formal schooling; (2) individual Guttman scale scores; and (3) individual "alertness" scores.

First, subjects were divided into attitudinal groups on the basis of individual evaluations of forestry activities, and differences in respondents' identification rates were examined for each category. Then, the subjects were divided by income, "alertness" scores, schooling, and Guttman scores.

In Table XXIV analysis is made by successively utilizing the variables of income and "alertness" scores. Tables of this kind have been called "three dimensional tables." They provide a very useful tabular device for the presentation of relatively complex results.

As the title of the table indicates, only the proportion of subjects who identified the poster correctly are recorded. The numbers (N) are the base figures. (The

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5The limited number of cases made third-order partialling not feasible. In fact, interpretations based on second-order partials are cautiously offered because of the limited cases in certain cells.

6Hyman, op. cit., p. 412.
TABLE XXIV
PER CENT OF RESPONDENTS IDENTIFYING POSTER, BY INCOME, "ALERTNESS" SCORES, AND ATTITUDE TOWARD FORESTRY

<table>
<thead>
<tr>
<th>Income and &quot;Alertness&quot;</th>
<th>Attitude Toward Forestry</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Excellent-Good</td>
<td>Average-Poor</td>
</tr>
<tr>
<td></td>
<td>Per No.</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Total</td>
<td>166</td>
<td>27.1</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $2000</td>
<td>47</td>
<td>17.0</td>
</tr>
<tr>
<td>$2000 and over</td>
<td>119</td>
<td>31.0</td>
</tr>
<tr>
<td>Alertness Score 1-4</td>
<td>64</td>
<td>25.0</td>
</tr>
<tr>
<td>Less than $2000</td>
<td>28</td>
<td>21.4</td>
</tr>
<tr>
<td>$2000 and over</td>
<td>36</td>
<td>27.7</td>
</tr>
<tr>
<td>Alertness score 5-6</td>
<td>102</td>
<td>28.4</td>
</tr>
<tr>
<td>Less than $2000</td>
<td>19</td>
<td>10.5</td>
</tr>
<tr>
<td>$2000 and over</td>
<td>83</td>
<td>32.5</td>
</tr>
</tbody>
</table>

Complements of the percentages are understood implicitly. Thus, the number 17.0 near the upper left-hand corner of the table indicates that 17.0 per cent of the subjects who reported less than $2,000 annual wages and rated the forestry agency activities excellent-good identified the poster. Although it is not reported explicitly in the table, we know that 83.0 per cent of this category did not identify the poster.)

By reading across the rows of the table, we find the relationship of perception-recall to attitudes (respondents'
evaluations of forestry activities) with income held con-
stant. The percentage of correct identifications is higher
for the respondents with favorable attitudes toward forestry
than for the respondents with unfavorable attitudes in both
income categories. The difference between perception rates,
however, is greater in the higher income category.

The variable of "alertness" scores was introduced
into the analytic model in order to see if the relationship
between perception-recall and attitudes toward forestry and
socio-economic factors was a spurious one. It was found
that the perception-recall of fire prevention posters is
dependent upon respondents' attitude toward forestry both
among those with high "alertness" scores and among those
with low "alertness" scores. The relationship, however,
appears to be more pronounced among those with high "alert­
ness" scores. At the second order of partialling, the
relationship between perception-recall and attitudes toward
forestry appears to be more pronounced among those with high
"alertness" scores who reported annual incomes of $2,000 or
over.

The sub-hypothesis that individuals with very strong
anti-forestry attitudes tend to perceive-recall fire preven­
tion messages but also tend to distort the message to a
greater extent than those without strong anti-forestry atti­
tudes was not supported by the data. Also, the sub-hypoth­
esis that individuals with strong anti-forestry attitudes
and individuals with strong pro-forestry attitudes tend to
perceive-recall fire prevention messages, whereas those in the middle range (approaching neutrality) tend not to perceive-recall fire prevention messages was not supported by the data.

With respect to sub-hypotheses, an examination of the data revealed that subjects with unfavorable attitudes simply do not tend to perceive-recall the messages. Admittedly, the number of cases was relatively small and the measures of distortion which were available were somewhat imprecise; nevertheless, an inspection of the columns in Table-XXIV (in which income and "alertness" are controlled) and an inspection of the "Total" row (in which the perception-recall ratio by attitude toward forestry is shown) reveal that relatively few individuals with unfavorable attitudes perceived-recalled the poster (the only apparent exceptions are the percentages in the cells where the base figures are quite small).

To provide an indicator of the subjects' attitudinal responses to fire control agencies, and forestry activities in general, a five-item Guttman scale, appropriate for the forest residence was developed from the original set of items on the basis of a coefficient of reproducibility of .932. The items which were scaled included the following: (1) rank of forest ranger; (2) rating of forestry activities; (3) agreement-disagreement with regard to "fair share" the Forest Service returned; (4) approval-disapproval of fining woods burners; (5) correct-incorrect identification of Smokey the Bear.
By means of this scale it was possible to analyze the subjects' responses to several items simultaneously and rank them accordingly by means of their scale scores. Guttman scale scores ranged from 1 through 8. Those with the lowest scores were considered most favorable; those with the highest scores were considered most unfavorable. An individual with the lowest score, for example, ranked forest ranger first in desirability, rated forestry activities "excellent," agreed that the county received a fair share from the U. S. Forest Service, approved fining woods burners, and correctly identified Smokey by name and organization represented.

The first- and second-order partials controlling on attitude, Guttman scale scores, and schooling are presented in Table XXV. By reading across the rows of the table we observe that perception-recall of fire prevention messages is dependent upon attitude toward forestry activities with schooling held constant. The percentage of correct identifications is higher for the respondents with favorable attitudes toward forestry than for respondents with unfavorable attitudes toward forestry in both educational categories. The difference is not uniform; it is greater in the case of the subjects with the greater amount of schooling. At the second order of partialling, the relationship between perception-recall and attitude toward forestry appears to be most pronounced among those subjects with less than tenth grade schooling and Guttman scores of 3-8 (most favorable). (Base figures for cells for Guttman scores 1-2 are small and
the relationship unclear, but the base figures are larger and the relationship is clearer with respect to Guttman scores 3-8.)

To conclude: the data were analyzed by the technique of elaboration of partials. Analysis indicated that perception-recall is dependent upon attitudes toward forestry activities and respondents' reported annual income. There also appeared to be a relationship between perception-recall and respondents' schooling.

On the basis of the data, the null hypothesis was
rejected and it is concluded that there is a significant
difference between those who correctly identify posters and
those who do not on the basis of certain socio-economic
factors (respondents reported annual income and formal
schooling) and respondents' attitudes toward forestry
activities.

VI. CONCLUSION

The presence of the phenomenon known as selective
preception-retention appeared to be pronounced in the present
investigation. Analysis of the data brought it into clearer
perspective. Respondents were asked to tell what four widely
used fire prevention slogans meant. Their responses not only
revealed the extent to which the messages were understood but
also indicated that the messages were distorted in terms of
the cognitive structure of the respondent.

Respondents were also requested to identify six mass
media symbols. It was found that the fire prevention symbol
(Smokey the Bear) was recognized by 89.4 per cent of the
respondents. Furthermore the proportion of subjects' correct
identification of all the symbols provided the data for what
was designated an "alertness" score.

An experiment was conducted in both communities, and
in the local school serving the area, in order to learn
whether fire prevention messages are selectively perceived-
recalled. It was found, as hypothesized, that fire preven-
tion messages were perceived-recalled with greater frequency
in Brooklyn than in Carnes, both with respect to adults and
school children. Further analysis indicated that the per­
ception-recall of fire prevention messages is, as hypothe­
sized, dependent upon subjects' socio-economic status and
attitudes toward forestry.

How are these findings related? Residence, it appears
is only incidental to variation in perception-recall rates;
but, it is within the community that values are shared.
Favorable forestry attitudes seem to be shared in the same
community among those of higher socio-economic status. Thus,
individuals with favorable attitudes toward forestry from
higher socio-economic status who live in communities where
such attitudes are pronounced tend to perceive-recall fire
prevention messages. Those with unfavorable attitudes toward
forestry who report lower levels of schooling and lower in­
come categories and who live in communities where negative
attitudes toward forestry are pronounced tend not to perceive-
recall fire prevention messages.
CHAPTER VIII

FACTORS RELATED TO INCENDIARISM: A REPORT
OF THE FINDINGS

This chapter is a report of the findings derived from testing the first research hypothesis. It was hypothesized that areas with high forest fire rates would be characterized by residents with low socio-economic status and unfavorable attitudes toward forestry activities. The following indicators were employed: (1) ownership of cattle permitted to graze on open range; (2) residents' self-esteem; (3) residents' reported annual income; (4) residents' formal schooling; (5) residents' rating of forestry activities in the area; (6) residents' ranking of the occupation of forest ranger.

The two communities studied, Brooklyn and Carnes, were similar in many ways. This similarity was obvious even before the interviewing began. From U. S. Census data it was learned that the ethnic composition in the two southern beats of Forrest County was similar. The communities were both rural. In total area they were approximately equal—Carnes with approximately 41,600 acres, Brooklyn with 35,840. They were located less than five miles apart—both in the heart of a vast stretch of pine forestland. The population
of the two communities was also approximately the same—240 families in Carnes and 230 in Brooklyn.

There was, however, one important difference between the two communities; namely, the difference in annual fire rates. The five-year average annual fire occurrence rate (the number of fires per one million acres of protected land) was 2,298 for Carnes, 787 for Brooklyn, and approximately 1,800 for Forrest County as a whole.

The variable fire rates of the two communities, which were alike in population characteristics, type of agriculture, and terrain, made for practically ideal experimental conditions and set the stage for a methodological procedure whereby certain factors related to woods burning—could be specified. The specification of these variables was expedited in that a number of factors (such as geographical location, rurality, and certain socio-economic variables) were automatically controlled and could be treated as constants. Factors related to incendiarism were sought in the differences between the study communities.

I. FACTORS EMPLOYED IN THE COMPARISON

The first factor specified was that of ownership of cattle permitted to graze on open range. The null hypothesis: there is no statistically significant difference between the area with a high forest fire rate and the area with a low forest fire rate with respect to cattle owners allowing stock to graze on open range (significance level =
It was found that the number of cattle owners with stock permitted to graze on open range was higher in Carnes than in Brooklyn. There were 21 such owners in Carnes whereas there were only 4 in Brooklyn. The difference between these proportions was significant at the .0005 level of probability. (Chi square = 34.28512; Df = 2.) The null hypothesis was therefore rejected at the .05 level of probability and it was concluded that the two areas did vary with respect to ownership of cattle permitted to graze on open range.

The second factor specified was that of respondents' self-esteem. To briefly review the procedure utilized, respondents were asked: (1) "Are you often asked for advice or information?" (2) "We frequently use the words upper class, lower class, or middle class to describe certain individuals. If you were asked to give a name for your social class, which of these would you choose (upper, upper middle, lower middle, lower, working class, or other)?"

Null hypothesis: It was hypothesized that there is no statistically significant difference between the area with the high forest fire rate and the area with the low forest fire rate with respect to respondents' self esteem.

It was found that there was no significant difference between the two communities in the responses to the first "indicator" of self esteem. In Brooklyn 53 respondents answered "yes," 37 answered "no," and 12 answered...
"occasionally." In Carnes 47 respondents answered "yes," 34 answered "no," 18 answered "occasionally," and two indicated that in general they were not sought for advice except for information or advice about very specific subjects (such as Biblical facts or technical information). The difference between these proportions was not statistically significant. (Chi square = 2.48; Df = 4.)

When respondents in the two communities were asked about their social class identifications, the responses portrayed in Table XXVI were obtained. The differences between the proportions were not statistically significant (chi square = 2.193; Df = 6). Thus, there was not a statistically significant difference with respect to responses to the two "indicators" of self-esteem.

**TABLE XXVI**

**RESPONDENTS' SOCIAL CLASS IDENTIFICATIONS, BY COMMUNITIES**

<table>
<thead>
<tr>
<th>Response</th>
<th>Communities</th>
<th>Carnes</th>
<th>Brooklyn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't Know, No Response</td>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Lower Class</td>
<td></td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Working Class</td>
<td></td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td>Lower Middle Class</td>
<td></td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Upper Middle Class</td>
<td></td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Upper</td>
<td></td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>105</strong></td>
<td><strong>104</strong></td>
</tr>
</tbody>
</table>

\[ x^2 = 2.193 \] \[ \text{Df} = 6 \] \[ P > .05 \]
One could legitimately question whether both "indicators" were valid measures of self-esteem. It was therefore decided that the first item be considered a self-designating indicator of opinion leadership and the second item be considered an indicator of the respondents' social class identification. Thus, the two communities were found to vary significantly with respect to neither the respondents' social class identification nor to the relative number of opinion leaders.

The third factor specified was that of income. The null hypothesis: It was hypothesized that there is no statistically significant difference between the area with high forest fire rates and the area with low forest fire rates with respect to respondents' reported income (significance level = .05; one tailed test).

Annual income reported by respondents for the year 1964 was the following:

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Carnes</th>
<th>Brooklyn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $2,000</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>$2,000 - $2,999</td>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>3,000 - 4,999</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>5,000 - 6,999</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Over 7,000</td>
<td>10</td>
<td>6</td>
</tr>
</tbody>
</table>

There were five non-responses. The difference between these proportions was not statistically significant (chi square = 2.139; Df = 4). The null hypothesis was not rejected at the .05 level of probability;
it was therefore concluded that the two communities do not vary with respect to respondents' reported income.

The fourth factor was that of the level of respondents' formal schooling. The null hypothesis: It was hypothesized that there is no statistically significant difference between the two study communities with respect to respondents' reported formal schooling (significance level = .05; one tailed test).

Each respondent was asked to indicate the highest grade he had attended. The responses to this question are presented in Table XXVII.

The difference between the proportions was statistically significant at the .05 level of probability (chi square = 7.945; Df = 4). The null hypothesis was rejected at the .05 level of probability and it was therefore concluded that the two communities do vary with respect to respondents' reported level of formal education.

The fifth factor was that of low rating of forestry activities on the part of the residents living in the two communities. The null hypothesis: It was hypothesized that there is no statistically significant difference between the two study communities with respect to the respondents' rating of forestry activities within the area (significance level chi square = .05; one tailed test).

Every individual interviewed was asked: "What kind of job do you think the forest fire control agencies are doing in this area--Excellent, Good, Average, Somewhat below
TABLE XXVII
RESPONDENTS' REPORTED FORMAL SCHOOLING, 
BY COMMUNITIES

<table>
<thead>
<tr>
<th>Highest Grade Attended</th>
<th>Communities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Carnes Number</td>
<td>Brooklyn Number</td>
</tr>
<tr>
<td>No response, refused</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1 - 3 grades</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>4 - 6 grades</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>7 - 9 grades</td>
<td>41</td>
<td>27</td>
</tr>
<tr>
<td>10 - 12 grades</td>
<td>32</td>
<td>46</td>
</tr>
<tr>
<td>College, a 1 year or less</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>College, 2 - 3 years</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>College, graduated</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>College, b graduate work</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>104</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 7.945 \quad \text{Df}^2 = 4 \quad P < .05 \]

\(^a\text{Includes business school attended after completion of high school curriculum.}\)

\(^b\text{Includes theological training.}\)

\(^c\text{Df = rows (2 and 3) vs. 4, vs. 5, vs. 6, vs. (7, 8, 9, 10). No response (row 1) excluded from computations.}\)
average, Poor, Other?" The responses were as follows: Excellent (Carnes—28, Brooklyn—51); Good (Carnes—51, Brooklyn—37); Average (Carnes—16, Brooklyn—7); Poor (Carnes—5, Brooklyn—2); Other responses such as "Fair" (Carnes—3, Brooklyn—1).

The difference between these proportions was significant at the .01 level of probability (chi square = 14.6164; Df = 5). The null hypothesis was therefore rejected at the .05 level of probability and it was concluded that the two areas do vary with respect to respondents' evaluation of forestry activities within Forrest County.

The sixth factor specified that of respondents' ranking of the forest ranger. The null hypothesis: It was hypothesized that there is no statistically significant difference between the two study communities with respect to respondents' ranking of the forest ranger (significance level chi square = .05; one tailed test).

When the subjects were asked to rate the forest ranger in that occupation's relationship to six other selected occupations (namely, auto repairman, electrician, dentist, carpenter, school teacher, clerk in store), the following responses were obtained as is shown in Table XXVIII.

It is true that more Brooklyn than Carnes respondents ranked the occupation of the forest ranger first or second in importance (Carnes—34; Brooklyn—43), nevertheless, the ratio dropped to approximately 0.5 when the cutting point was lowered to fourth rank (cumulative frequencies: Carnes—
### TABLE XXVIII

RESPONDENTS' COMPARATIVE RANKING OF THE OCCUPATION OF FOREST RANGER, BY COMMUNITIES

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Carnes</td>
</tr>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Don't Know or Refusal</td>
<td>6</td>
</tr>
<tr>
<td>First</td>
<td>17</td>
</tr>
<tr>
<td>Second</td>
<td>17</td>
</tr>
<tr>
<td>Third</td>
<td>23</td>
</tr>
<tr>
<td>Fourth</td>
<td>17</td>
</tr>
<tr>
<td>Fifth</td>
<td>10</td>
</tr>
<tr>
<td>Sixth</td>
<td>8</td>
</tr>
<tr>
<td>Seventh</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
</tr>
</tbody>
</table>

\[ X^2 = 6.80014 \quad Df = 7 \quad p < .25 \]

74, Brooklyn—72). Thus, the difference was not statistically significant (chi square = 6.80014; Df = 7). The null hypothesis was not rejected (at the .05 level of probability) and it was concluded that the two areas do not vary with respect to respondents' ranking of the occupation of forest ranger.

Data were obtained which made possible a comparison of the two communities on the basis of other variables even though only six underlying categories were originally specified. This additional information was useful in that further similarities and dissimilarities between the communities could be specified.
It was found that the majority of respondents in both of the communities owned their homes—78.5 per cent in Carnes and 85.2 per cent in Brooklyn. The difference between the proportions was not significant. Likewise there was no significant difference between the number of timber owners in the two communities. In Carnes, 46.6 per cent of the respondents owned land with timber; in Brooklyn the corresponding percentage of respondents was 41.1 per cent.

Data relevant to certain level of living "indicators" were also obtained, by means of which the communities were further compared. More homes with freezers (Carnes—76; Brooklyn—57) and telephones (Carnes—50; Brooklyn—39) were reported in Carnes than in Brooklyn. The latter finding (i.e., the relatively higher number of phones in Carnes) was somewhat surprising and no explanation is offered to account for it. On the other hand, there were more television receivers, radios, and automobiles reported in Brooklyn than in Carnes. The difference in these proportions was not statistically significant.

Each respondent was asked if he would advise a young man to choose a job with a lumber or paper company (Item No. 8). Responses to the question were similar in both communities and the difference was not statistically significant. A total of 66 respondents in Carnes and 67 respondents in Brooklyn stated that they would advise such a career.

The writer wished to know how the residents of the area felt about the thousands of acres of forestland in their
county. Did they think too much land was in timber? Were these feelings related to woods burning behavior? Were they related to other anti-forestry attitudes? Was there any relationship between this attitude and the perception-recall of fire prevention messages? Did the respondents' attitude toward the amount of land in timber vary in frequency between the two communities? Respondents were therefore asked, "Do you believe too much of this county is in forest land or not?"

It was found that the number of respondents who thought too much of the county was in forest land was higher in the area with high forest fire rates than in the area with low forest fire rates. There were 33 such individuals in the Carnes community sample and 27 in the Brooklyn sample. The difference between these proportions, however, was not significant (chi square = 9.184; Df = 5; P < .10).

A rather large number of sample individuals explained why they responded affirmatively or negatively to the question. One Brooklyn man replied, "If there was one acre of government land, I would think there was too much. The citizens need the land. Plenty of young men would like to build. We don't have enough here." Another respondent from Brooklyn felt that, though there was not too much at the present time, no more should be devoted to timber growth. Several felt that there should be more farms. Others, however, stated that there was no need for additional farms. One Carnes respondent stated that there was farm land "lying
idle all over the county; it ought to be put in timber."

An elderly man interviewed in the Brooklyn area stated, "You can't have too much land in timber." Before his retirement he had been a "stumper." His attitudes were pro-forestry. For example, he stated that the forest fire control agencies were doing an "excellent" job in the area--"Just as good as anywhere in the U. S. We have the best reforesting there is anywhere. There is so much young timber put out." Nevertheless, he believed in periodic woods burning--"It would be bettered if parts of the woods would be burned every two or three years."

Several who felt that there was not too much land in timber related their attitude to the future of forestry products. One Brooklyn resident, in answering the question, asked: "If we do away with our forest land, what would we do for paper and lumber?"

Another category of responses upon which comparison was made was that of the respondents' reported reading habits. In Carnes 67 respondents stated that they read newspapers and magazines regularly; the corresponding number in Brooklyn was 76. The difference was not statistically significant (chi square = 2.56596; Df = 3; P < .10). The total number of newspapers and magazines regularly read by the respondents was larger in Brooklyn than in Carnes but the difference was not statistically significant (newspaper: chi square = 2.8076; Df = 3; P < .35; magazines: chi square = 5.4312; Df = 9, P < .40).
Finally, the respondents of the two areas were compared on the basis of their perception-recall of fire prevention messages. (These findings are interpreted in detail in Chapter VII.) It was found that more Brooklyn respondents than Carnes respondents reported having seen or heard about fire prevention within the past six months. Only 52 Carnes respondents answered affirmatively whereas the corresponding number for Brooklyn respondents was 82. The difference between these proportions was significant at the .0001 level of probability (chi square = 23.7422, Df = 3; P < .0001). The direction of the significance was in accord with the expectation that fire prevention messages tend to be perceived and recalled with greater frequency (and/or distorted with less frequency in the area with low incendiary rates than in the area with high incendiary rates.

<table>
<thead>
<tr>
<th>Type of Response</th>
<th>Carnes</th>
<th>Brooklyn</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't Know, or No Response</td>
<td>12.4</td>
<td>1.9</td>
<td>7.2</td>
</tr>
<tr>
<td>Yes</td>
<td>49.5</td>
<td>78.8</td>
<td>64.1</td>
</tr>
<tr>
<td>No</td>
<td>37.1</td>
<td>17.3</td>
<td>27.3</td>
</tr>
<tr>
<td>Undecided</td>
<td>1.0</td>
<td>1.9</td>
<td>1.4</td>
</tr>
</tbody>
</table>

N = 209

\[ x^2 = 23.7422; \text{ Df} = 3; \text{ P} < .0001. \]
In conjunction with this finding, it was also found that the respondents' alertness scores (based on respondents' correct identification of selected organizational symbols) did not vary significantly between the two communities (chi square = 6.21187; Df = 6; P < .25). Thus, the difference in respondents' observation of fire prevention messages was not adequately explained on the basis of the respondents' overall alertness with respect to mass media symbols and messages.

Summary

To recapitulate, the two study communities were found to be similar in the following respects: (1) the total number of residents; (2) the number of opinion leaders (as measured by the respondents' self-designation); (3) the reported annual income; (4) the respondents' ranking of forest ranger; (5) the percentage of home owners; (6) the respondents' attitudes toward careers with paper or lumber companies; (7) the number of timber owners; (8) respondents' attitudes toward the amount of land that should be in timber production; (9) the respondents' "alertness" scores; (10) respondents' social class identifications; (11) the number of regular newspaper and magazine readers; (12) the average number of newspapers and magazines reported read; (13) the number of radios and television receivers reported in working order; (14) the number of homes equipped with inside plumbing; and (15) the number of automobiles owned.
The two study communities were found to differ in the following respects: (1) annual woods burning rate; (2) number of cattle owners who permitted stock to graze on open range; (3) respondents' reported level of formal schooling; (4) respondents' evaluation of forestry activities; (5) the number of home freezers reported; (6) the number of telephones; and (7) respondents' perception-recall of fire prevention messages.

The factors by means of which the communities were compared are interpreted by the writer as being interrelated elements of the total action situation. This implies that when one element is altered, changes may be expected in other parts of the system.

For example, if residents of a given community become convinced of certain benefits which accrue from forestry activities, it is likely that their attitudes regarding land used for timber production will be altered. As a consequence, higher rates of perception-recall of fire prevention messages are to be anticipated.

It is known that there is a strain toward consistency with respect to attitudes. Thus, individuals who come to value timber production will quite likely tend to favor laws and sanctions which protect it. Within such a climate of opinion, woods burning activity will probably be disfavored to a greater extent than was previously the case.

Admittedly, the solution to a problem as complex as
that of woods burning is not to be found in simply dissemi-
nating facts and figures concerning the economic benefits of
forestry activities. Not by any means! The hypothetical
situation sketched above is used to point up the fact that
the elements in any woods burning situation are interrelated.
A change in one element can be anticipated to have conse-
quences for other elements.

One further point should be noted, namely, that the
communities are not as homogeneous as was previously sup-
posed. To support this assertion, one has only to point out
the rather wide ranges of income and formal schooling re-
ported in both communities. Correspondingly, the respon-
dents' attitudes in both communities "ran the gamut" from
positive to negative. Individuals with anti-forestry
attitudes were found in Brooklyn and individuals with pro-
forestry attitudes were found in Carnes but, as was hypoth-
esized, not to the same extent.
CHAPTER IX

SUMMARY AND CONCLUSION

Fire control agencies have sought for a number of years to communicate with forest publics. Their varied programs have apparently been based on the assumption that forest fire rates can be reduced through communicating fire prevention messages. These messages and the forest public's perception of them constitute the central focus of this study.

The study was conducted in two rural communities, Carnes and Brooklyn, located in the woodland tracts of south Mississippi. A team of field workers obtained data for the study by interviewing a sample of adult residents. Supplementary information was obtained from Forest Service personnel, sociologists, and other social scientists. The Louisiana State University Computing Center facilities were utilized to process these data.

The objectives of the study\(^1\) were: (1) to analyze

\(^1\)An additional objective was stated initially: "To determine if the recipients of the messages have communicated any part of the messages to others, have tried to influence the behavior of others, or made any other use of the projected messages." Limitations of an administrative nature made this not feasible for the present study. Investigation relevant to this particular objective is envisioned in a forthcoming study.
the differential responses to fire prevention messages on the basis of communication theory; (2) to obtain information relative to the sources of fire prevention messages which are seen and heard by residents of the study communities; (3) to discover their knowledge of the messages and their response to them; (4) to develop leads for use in subsequent studies.

The investigation involved determining the ways in which certain messages are perceived, their sources, how well they are remembered, and the relationship of these data to specific socio-economic factors, to individual cognitive structure, and to community normative structures. The major hypothesis was that an individual's perception-recall of fire prevention messages is a function of individual cognitive structure and group normative structure.

Four research hypotheses were derived from the major hypothesis. They are as follows: (1) areas with high incendiary rates tend to be characterized by residents with low socio-economic status and unfavorable attitudes toward forestry activities; (2) fire prevention messages tend to be perceived-recalled with greater frequency and/or distorted with less frequency in areas with low incendiary rates than in areas with high rates; (3) individuals who perceive-recall fire prevention messages tend to be characterized by high socio-economic status and favorable attitudes toward forestry activities; (4) residents in areas with high incendiary rates tend to have more lenient attitudes toward enforcement of fire laws than those in areas with low
incendiary rates.

One statement is necessary regarding the limitations of this investigation. The findings are appropriate to the universe studied. The findings are limited to the phenomenon of communicating fire prevention messages in the two communities described above. Generalizations from these findings to other settings is appropriate only if significant similarities exist.

Some of the more obvious limitations of this investigation should be mentioned. The study is limited to a study of specific stimuli--fire prevention messages. It is also limited in the characteristics peculiar to the study setting--two rural communities of the Deep South. The size of the sample (209) has limited the kinds and extent of analysis utilized and precluded the use of certain statistical techniques. For example, it was not possible to control for all factors in the elaboration of partials because of the limited number of cases in certain categories.

The fact that the experimental design is a cross-sectional one has placed other limitations on the study. The possibility of a panel study is suggested for subsequent research. Several factors, among many possible ones, were examined as being related to perception-retention. The possibility of significant relationships between perception-retention and other variables is a very real one. The Guttman scale could have included more items. Finally, more exact control conditions in the experiments by which it
could be known whether all subjects had been exposed equally to the stimuli would have been desirable.

The writer is aware of each of these limitations. It is suggested that they set the stage for future research. Perception-retention could be investigated in a variety of settings, with varied messages, through time, and related to a number of other variables for more thorough elaboration.

This study has been focused upon a specific area where a societal need suggested scientific investigation. Several possible contributions are indicated in the following paragraphs.

Prior to the study it was known that the two study communities, though similar in a great many ways, differed in one important respect—the annual incendiary rate. Another difference was found: fire prevention messages were perceived-recalled at differential rates by the residents of the two communities. Other similarities and dissimilarities were indicated.

The two communities were found to be similar in the following respects: (1) the total number of residents; (2) the number of opinion leaders (measured by the respondents' self-designation); (3) the respondents' reported annual income; (4) the respondents' ranking of forest ranger; (5) the percentage of home owners; (6) the respondents' attitudes toward careers with paper or lumber companies; (7) the number of respondents who were timber owners; (8) the respondents' attitudes toward the amount of land that should be in
timber; (9) the respondents' "alertness" scores; (10) respondents' social class identification; (11) the number of respondents who were regular newspaper or magazine readers; (12) the average number of newspapers and magazines reported read; (13) the number of radio and television receivers reported in working order; (14) the number of homes equipped with inside plumbing; and (15) the number of automobiles reported owned.

One would expect that two rural communities of south Mississippi, located within five miles of each other, would be similar in a number of ways. This was anticipated in the design of the research and proved to be the case. It was hypothesized, however, that the communities would also differ in certain respects.

The two study communities were found to differ in the following respects: (1) annual woods burning rate; (2) number of cattle owners who permitted stock to graze on open range; (3) respondents' reported level of formal schooling; (4) respondents' evaluation of forestry activities; (5) number of home freezers reported; (6) number of telephones; and as previously mentioned; (7) respondents' perception-recall of fire prevention messages.

A relationship between open range grazing and periodic woods burning has long been recognized by layman, forester, and sociologist alike. Its prevalence in the Carnes community indicates the presence of this cultural pattern. In such a setting a normative climate is created wherein those
who do not actually participate in woods burning activities empathize with and tolerate those who do. Residents' relatively lower levels of schooling, and lower social class identifications are interrelated factors in the system. The writer feels that these tend to make the system resistant to change. Forestry activities tend to be evaluated unfavorably because they are interpreted by residents as threats to established behavior patterns.

The statistically significant difference in the number of these cattle owners in the two communities leads the writer to conclude that the cultural pattern associated with open range grazing and periodic woods burning is no longer a dominant one in Brooklyn. Any man-caused forest fires that occur in that area then tend to be caused by carelessness or motivated by spite rather than by economic considerations.

The first research hypothesis was thus supported by the data. Specification of differences in dominant elements of the social systems associated with the two study communities set the stage for studying the ways in which residents perceive—recall fire prevention messages.

Virtually every resident of both the study communities reported regular contact with the mass media. Even the 5.6 per cent of the respondents who reported no regular contact with radio, television, newspapers, or magazines had occasional exposure. Thus, the entire population could be considered potentially reachable via the mass media.

Respondents were asked to relate where they had seen
or heard fire prevention messages. The sources of fire prevention messages named, specifically in order of frequency, were the following: (1) television; (2) signs and posters; (3) local newspapers; (4) radio; (5) personal contacts with friends, officials, etc.; (6) magazines or non-local papers; and (7) formal organizations, meetings, etc.

It was found that most residents interviewed had scanty knowledge of what was being done in the county by fire control agencies. Only 37.8 per cent of the respondents responded affirmatively to the question, "Does this county receive any money from the sale of timber cut on national forest land in this county?" Even fewer of the respondents could give a reasonably accurate estimate of the proportion of money returned to the county. When asked who managed 16th section lands, only 15.3 per cent mentioned the Mississippi Forestry Commission.

Most respondents knew that proceeds from 16th section land were dedicated to school purposes. Some residents, however, suggested that these funds were misappropriated. Few knew what use was made of proceeds from national forest land.

The fire prevention symbol, despite the disadvantages of its relatively briefer national exposure and non-commercial (public service) base, fared quite well when compared with other mass media symbols. Only 10.6 per cent of the respondents had no apparent conception of the identification or meaning of the fire prevention symbol.

Data were gathered which made possible the study of a
dimension of respondents' emotional reaction to fire prevention messages. It was hypothesized that residents in areas with high incendiary rates tend to have more lenient attitudes toward enforcement of fire laws than those in areas with low incendiary rates.

It was found that 49.5 per cent of the Carnes respondents and 70.1 per cent of the Brooklyn respondents unequivocally favored imprisoning woods burners. The difference between these proportions was statistically significant and it was concluded that residents in areas with high incendiary rates do tend to have more lenient attitudes toward enforcement of fire laws than those in areas with low rates.

The majority of respondents in both communities agreed that woods burners should be fined. Thus, there is popular support for enforcement of fire laws in both communities. This is even more significant when one considers that arrests and convictions have been made in the very locale where the survey was conducted.

An experiment was conducted in both communities and in the local school serving the area in order to learn whether fire prevention messages are selectively perceived-recalled. It was found, as hypothesized, that fire prevention messages were perceived-recalled with greater frequency in Brooklyn than in Carnes, both with respect to adults and school children. Further analysis indicated that the perception-recall of fire prevention messages, as hypothesized, is dependent upon subjects' socio-economic status and attitudes toward forestry.
Analysis of the data revealed that subjects with unfavorable attitudes toward forestry activities simply do not tend to perceive-recall fire prevention messages. Only 8.8 per cent of those who evaluated fire control activities unfavorably were able to identify the fire prevention poster used in the experiment.

A sub-hypothesis was that respondents' general "alertness" to the mass media is related to the variation in perception-recall of fire prevention messages. It was found that the perception-recall of fire prevention messages is dependent upon respondents' attitude toward forestry both among those with high "alertness" scores and among those with low "alertness" scores. The relationship, however, appears to be more pronounced among those with high "alertness" scores.

The findings of the study leave little doubt that the phenomenon of selective perception-retention is a factor in the process of sending-receiving fire prevention messages. Individuals with favorable attitudes toward forestry activities from higher income categories (and with higher schooling levels) who live in communities where favorable attitudes are pronounced tend to perceive-recall fire prevention messages; those with unfavorable forestry attitudes from lower income categories (and with little schooling) who live in communities where unfavorable attitudes are pronounced tend not to perceive-recall fire prevention messages.

This "selective inattention" to fire prevention
messages on the part of those with unfavorable attitudes may be explained by the fact that individuals, consciously or unconsciously, do not perceive (or tend to forget) that which is unpleasant to them. At the psychological level of analysis, this process is an "ego saving" device—a protective net which serves to screen out stimuli which might otherwise produce personality disorganization.

The assumption made by many social psychologists that a person will perceive things in a manner that corresponds with his own personality is confirmed by the findings of this study. It is clear that, by and large, people tend to expose themselves to messages which are in accord with their existing attitudes and interests. In the event of their being exposed to material with which they are unsympathetic, they often seem not to perceive it, or to recast and interpret it to fit their views, or to forget it more readily than they forget materials with which they are sympathetic.

Prior to the present investigation experiments designed to explore the dimensions of the selective processes had been conducted in other settings and with other stimuli. The uniqueness of this study lies in the particular characteristics of the study setting (a woods burning environment) and in the nature of the stimuli (fire prevention messages).

At the sociological level of analysis, individuals tend to internalize the norms of the social groups with which they identify. By means of the present investigation an
attempt has been made to tie together group norms and social structure with an individual's selective perception-retention. Simply stated, it is suggested that the values and attitudes that become the elements of an individual's cognitive structures are selected from, and supported by, the normative structure of the groups which are significant to the individual. If the norms of the reference groups happen to be anti-forestry, the individual tends to conform to the norms and expectations of the group. In such a situation he tends to act, think, even perceive-recall in a manner congruent with the expectations of his reference groups. In rural social structures, the importance of locality groups as reference groups and pressures within these groups toward homogeneity tend to accentuate this tendency.

One dimension of this phenomenon has been given little attention in the literature, namely, the possibility that those with strong feelings on a subject tend to perceive-recall messages with which they do not agree more readily than those with less intense feelings. Attention was given to such a possibility in the analytical model. It was found that all respondents with negative feelings about forestry, whether these feelings were mildly or intensely held, tend not to perceive-recall fire prevention messages. This finding is interpreted as evidence for the fact that preoccupation with a given point of view often completely prevents a person from perceiving facts or relationships that are relevant to some other point of view.
Suggestions for Further Research

The exploration of individual and group responses to selected messages would be a significant contribution to available knowledge of the process of communication. Such a study would utilize an ex-post-facto experimental design and would involve testing the so-called "two-step flow" hypothesis in a forest community setting. By means of this hypothesis—an important theoretical development in mass communication research—it is suggested that messages transmitted via mass media are received by opinion leaders. From these opinion leaders the message is, in turn, transmitted to various primary groups composed of persons within the opinion leaders' spheres of influence.

The first stage of such an investigation would involve transmitting a selected message to designated opinion leaders who reside in a forest community. The second stage would involve tracing patterns of influence in order to learn if the message were communicated to other individuals within the opinion leaders' respective spheres of influence. This information would make possible an evaluation of the relative importance of formal, as opposed to informal, sources of fire prevention messages. Various inter-relationships could also be analyzed.

In the present study a very limited effort was made to evaluate emotional reactions to fire prevention messages. No attempt was made to assess the motivational impact of these messages. The present study involved determining the ways
in which certain messages are perceived, their sources, how well they are remembered, and the relationship of these data to specific socio-economic factors and to individual cognitive structure. More elaborate analysis of emotional reactions and assessment of the influence of fire prevention messages upon individual motivation seem to be the next logical steps. To illustrate this point, this research has indicated the extent to which certain rural people have seen Smokey the Bear, know his name, and know the cause he represents, but it can only be surmised as to the motivational impact of the symbol.

**Implications**

Values related to forestry appear to be shared among residents of the community and internalized by individuals. In the poster experiment conducted in the school, it was apparent that this process of socialization begins quite early in the life span of the person.

The shared values, norms, attitudes, and socio-economic factors referred to in the summary of findings are interpreted as being interrelated elements of the total action situation. This implies that when one element is altered, changes may be anticipated in other parts of the system.

The communication of fire prevention messages is literally one small part of the action situation. For the resident, it is one element among many impinging upon his
consciousness. Because this is so, some have viewed the situation as practically hopeless. The writer takes the position that the interrelationships in the action situation could actually be utilized to an advantage. A change in certain socio-economic factors (such as a changed pattern of agriculture, higher income, or greater educational opportunities) or in the shared value system of the residents could trigger a series of developments which would reduce the rate of man-caused forest fires.

What would be the role of the mass media in such a program? This question may best be answered by summarizing the conditions for influencing and audience and by suggesting certain implications.²

Donald F. Cox has suggested that in order to influence an audience in the desired manner by communication, certain conditions must be met: (1) The audience must be exposed to the message. (2) Members of the audience must interpret or perceive correctly that action or attitude which is desired of them by the sender. (3) The audience must remember or retain the content of the message the communicator transmitted. (4) Members of the audience must decide whether or not they will be favorably influenced by the communication.³


³Ibid. The last condition is questionable as stated. All responses to messages are not rational.
If the conclusions of this study are valid, what are the implications for fire prevention programs? (1) The program must function either to reinforce existing attitudes and behavior or to stimulate people who are already predisposed to act in the desired manner. For example, greater emphasis could be placed on approved forestry practices helping the South in general and Mississippi in particular. Most residents are already intensely patriotic to the region and the message would tend to influence residents within the framework of their predispositions. It must be remembered that the message (poster, television, radio announcement) is not, in itself, a cause of audience effects, but rather works with and through various mediating factors such as audience predispositions and personal influence. (2) It would be a mistake to contend that attitudes are so highly developed that behavior patterns never change. They do. "Evidence for conversion, though scanty, is to be found in the literature." It could be contended, however, that changing a person's attitudes or behavior, as opposed to reinforcing his present attitudes, is probably beyond the scope of most mass media programs.

Conversion is more likely whenever: (1) the attitude involved is of little importance to the individual; (2) mediating factors such as negative attitudes are inoperative; (3) mediating factors (attitudes) favor change. If these

4Ibid.
assertions are realistic, it would appear that an effective program would involve the selection of opinion leaders who are already predisposed to act in a favorable manner toward the fire control agencies and present them with appeals which would hopefully bring about the desired response. Failure is more likely than success, in any mass communication program aimed at changing important attitudes and behavior, unless the message sender can somehow work with or through the mediating factors of attitudes, predispositions, and shared group norms.
SELECTED BIBLIOGRAPHY

A. BOOKS


B. PUBLICATIONS OF THE GOVERNMENT, LEARNED SOCIETIES AND OTHER ORGANIZATIONS


Lionberger, Herbert F. *Television Viewing in Rural Boone County with Special Reference to Agricultural Shows*. Missouri Agricultural Experiment Station Bulletin 702. Columbia, April, 1958.


Wilkening, E. A. *Adoption of Improved Farm Practices as Related to Family Factors*. Wisconsin Agricultural Experiment Station Research Bulletin 183 Madison, December, 1953.

C. PERIODICALS


D. ESSAYS AND ARTICLES IN COLLECTIONS


E. UNPUBLISHED MATERIALS


F. NEWSPAPERS

COMMUNICATION RESEARCH:

South Mississippi Pilot Project
Department of Rural Sociology
Louisiana State University
in cooperation with
Mississippi State University

Name of Head of Household_____________________________________

Name of Person interviewed (If different from head)_________

Street or Route No.___________________________________________

Post Office_________________________________________________

County_____________________________________________________

Name of community (according to respondent)__________________

Interviewer_________________________________________________

Time of Interview:

___________ Date ___________ Hour

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INTERVIEW SCHEDULE

1. Instructions: Record the following information for all persons 13 years of age and older living in the household at the time of the interview

<table>
<thead>
<tr>
<th>Name</th>
<th>Sex</th>
<th>Relationship to Head</th>
<th>Age</th>
<th>Marital Status</th>
<th>Yrs. of School Completed</th>
<th>Still in School</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td></td>
<td>(Head)</td>
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<td>(2)</td>
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<td>(Wife)</td>
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</table>

1. State specific relationship such as son, father, mother-in-law, etc.

2. Code as follows: M Married; NM Never Married; D Divorced; S Separated; W Widowed

3. Indicate number of highest grade attended; if now attending indicate grade he is in. If respondent has attended college, indicate with letter C and number of highest year attended. (For example: eighth grade—8; college sophomore—C 2)
Interview Schedule Cont'd.--

2. HOW LONG HAVE YOU LIVED IN THIS COMMUNITY? (years)

3. (If less than 2 years) WHERE DID YOU LIVE BEFORE?
   (Community) (state)

4. HOW MANY ACRES ARE THERE ON THIS PLACE?

5. DO YOU OWN [ ] RENT [ ] OR LIVE FREE [ ] ON THIS PLACE?

6. DOES ANY OF THE LAND YOU OWN HAVE TIMBER ON IT?
   Yes [ ] No [ ]

6a. ABOUT HOW MANY ACRES?

6b. WHAT USE, IF ANY, DO YOU MAKE OF THIS TIMBER?

7. DO YOU HAVE LIVESTOCK?
   Yes [ ] No [ ]

7a. WHAT KINDS AND HOW MANY?

7b. DO ANY OF THEM GRAZE ON THE OPEN RANGE?
   Yes [ ] No [ ]

7c. DO ANY OF THEM GRAZE ON THE NATIONAL FOREST LAND?
   Yes [ ] No [ ]

WE WOULD NOW LIKE TO DISCUSS VARIOUS OCCUPATIONS OR JOBS WITH YOU.

8. SUPPOSE YOU WERE HELPING A YOUNG MAN CHOOSE A JOB: WOULD YOU ADVISE HIM TO SEEK A CAREER WITH A PAPER OR LUMBER COMPANY OR NOT?
   Yes [ ] No [ ]

WHY?

9. WE SOMETIMES SPEAK OF SOME OCCUPATIONS AS BEING MORE (DESIRABLE) THAN OTHERS. IN YOUR OWN PERSONAL OPINION, WHICH OF THE FOLLOWING OCCUPATIONS WOULD YOU SAY IS THE
MOST (DESIRABLE) FOR A YOUNG MAN, SECOND MOST IMPORTANT, THIRD, FOURTH?

RANK

[ ] AUTO REPAIRMEN
[ ] ELECTRICIAN
[ ] FOREST RANGER
[ ] DENTIST
[ ] CARPENTER
[ ] SCHOOL TEACHER
[ ] CLERK IN STORE

9a. WHERE WOULD YOU RANK THE FOREST RANGER? (IF FOREST RANGER NOT IN FIRST 4)

10. WHAT KIND OF JOB DO YOU THINK THE FOREST FIRE CONTROL AGENCIES ARE DOING IN THIS AREA?

[ ] EXCELLENT [ ] SOMEWHAT BELOW AVERAGE
[ ] GOOD [ ] POOR
[ ] AVERAGE [ ] OTHER (HEAD)

11. DOES THIS COUNTY RECEIVE ANY MONEY FROM THE SALE OF TIMBER CUT ON NATIONAL FOREST LAND IN THIS COUNTY?

[ ] YES [ ] UNDECIDED [ ] NO

11a. WHICH OF THE ITEMS ON THIS CARD COMES CLOSEST TO WHAT THE COUNTY GETS?

[ ] ABOUT 5% OF THE TOTAL MONEY RECEIVED
[ ] ABOUT 25% OF THE TOTAL MONEY RECEIVED
[ ] ABOUT 75% OF THE TOTAL MONEY RECEIVED
[ ] ALL OF THE MONEY

11b. WHERE DID YOU LEARN ABOUT THIS?
12. DO YOU THINK THIS IS A FAIR SHARE OR NOT?
   YES [ ]    NO [ ]    OTHER_________________________

13. WHAT IS THIS MONEY USED FOR IN THIS COUNTY?___________

14. AS YOU MAY KNOW 16TH SECTION LAND IS THE LAND IN THE
    NATIONAL FOREST THAT IS GIVEN TO THE STATES AND ANY
    MONEY EARNED FROM IT GOES TO THE STATES. WHAT DO YOU
    THINK THE MONEY EARNED FROM 16TH SECTION LAND IS USED
    FOR? _____________________________________________

15. WHO MANAGES THE TIMBER ON 16TH SECTION LAND?___________

16. DO YOU BELIEVE TOO MUCH OF THIS COUNTY IS IN FOREST
    LAND OR NOT?
   YES [ ]    NO [ ]

17. HAVE YOU SEEN A FOREST FIRE BEFORE THE FIRE FIGHTERS
    ARRIVED?
   YES [ ]    NO [ ]

18. HAVE YOU OR YOUR WIFE REPORTED A FOREST FIRE?
   YES [ ]    NO [ ]

19. WHEN AND WHERE DID YOU REPORT IT?_____________________

20. ARE YOU IN FAVOR OF FINING A PERSON IF THE PERSON
    DELIBERATELY SET FIRE TO WOODS HE DID NOT OWN?
   YES [ ]  HOW MUCH $ [ ]    NO [ ]    OTHER__________

21. ARE YOU IN FAVOR OF PUTTING THE PERSON IN JAIL?
   YES [ ]  HOW LONG [ ]    NO [ ]    OTHER__________

22. DO YOU KNOW WHAT THE PENALTY IS IN THIS STATE?
   YES [ ]    NO [ ]

23. HAVE YOU SEEN OR HEARD ANYTHING ABOUT FOREST FIRE PRE-
    VENTION IN THE LAST SIX MONTHS?  YES [ ]  NO [ ]
23a. WHERE DID YOU SEE OR HEAR IT? (instructions: Attempt to get exact information such as television channel, name of program, name of paper, if sign—where posted, if person—identify by relationship or occupation, etc.

HEAD:______________________________________________________

24. HAVE YOU SEEN THE LASSIE PROGRAM ON TV THIS YEAR OR NOT?
   YES [ ]      NO [ ]

24a. WHAT DOES LASSIE'S MASTER DO FOR A LIVING?___________

25. WHAT IS THE NAME OF?

25a. YOUR DISTRICT RANGER, U. S. FOREST SERVICE___________

25b. YOUR AREA FORESTER, MISSISSIPPI FORESTRY COMMISSION____

26. DO YOU KNOW ANY OTHER FORESTERS IN THIS AREA?
   YES [ ]      NO [ ]

   PLEASE NAME THEM_____________________________________

Instructions: Ask for information in the exact words given for each item below. If an alternate is required, use the exact explanation requested and indicated.

27. ARE THERE ANY FIRE PREVENTION SIGNS OR POSTERS AROUND HERE? (Alternate: ARE THERE ANY SIGNS OR POSTERS AROUND HERE ABOUT FOREST FIRES?)
   YES [ ]      NO [ ]

   (Alternate used) YES [ ]      NO [ ]

28. WHAT DOES THE SIGN SAY? (Alternate: WHAT WORDS ARE ON THE SIGN?
   Alternate used.     [ ]

29. IS THERE A PICTURE ON THE SIGN (OR POSTER)?
   YES [ ]      NO [ ]
30. WOULD YOU DESCRIBE THE PICTURE ON THE SIGN (OR POSTER).
   (Alternate: WOULD YOU TELL ME WHAT THE SIGN (OR POSTER) LOOKED LIKE? ________________________________
   Alternate used: [ ]

31. HAVE YOU SEEN ONE OF THESE IN THE NEIGHBORHOOD OR NOT?
   (Show picture of several posters.)
   YES [ ] NO [ ]

31a. WHICH ONE OF THESE IS THE ONE YOU SAW?
   Correct [ ] Incorrect [ ]

32. I HAVE PICTURES OF SOME SYMBOLS WHICH WE OFTEN SEE.
   WHAT DO THEY STAND FOR? NAME OF SYMBOL AND/OR ORGANIZATION
   Greyhound__________________________
   Elsie the cow________________________
   Green Giant__________________________
   Smokey the bear________________________
   Dog & Phonograph______________________
   Chevrolet Emblem______________________

33. THE FOREST SERVICE HAS RECENTLY SENT OUT SOME LETTERS
    WITH MATERIALS ABOUT THE NATIONAL FORESTS. HAS ANYONE
    IN YOUR HOME RECEIVED A LETTER RECENTLY FROM THE FOREST
    SERVICE?
    YES [ ] NO [ ]

34. DID YOU OR YOUR WIFE READ OR LOOK AT THE LETTER?
    HEAD: YES [ ] NO [ ]
    WIFE: YES [ ] NO [ ]

35. IN GENERAL, WHAT WAS THE LETTER ABOUT?____________
36. DID YOU OR YOUR WIFE DISCUSS THE LETTER WITH ANYONE?

HEAD: YES [ ] NO [ ]

WIFE: YES [ ] NO [ ]

36a. WITH WHOM?

Name (Relationship) (Community/county/state)

Name (Relationship) (Community/county/state)

37. WHAT WAS DONE WITH THE MATERIALS ENCLOSED WITH THE LETTER?

38. I AM GOING TO SHOW YOU FOUR CARDS BEARING FIRE PREVENTION MESSAGES: PLEASE TELL ME WHAT THEY MEAN TO YOU.

A. "FOREST FIRES DESTROY WATERSHEDS." (Leave at least 3 lines for each respondent for each question

B. "PLEASE, ONLY YOU CAN PREVENT FOREST FIRES"

C. "FIRE DESTROYS WILDLIFE"

D. "THE SOUTH IS ROBBED BY THE MALICIOUS WOODS BURNER: HELP STOP HIM"

39. WOULD YOU OR YOUR WIFE LIKE TO MOVE FROM THIS COMMUNITY OR NOT?

HEAD: YES [ ] UNDECIDED [ ] NO [ ]

WIFE: [ ] [ ] [ ]

39a. WHY?

40. WHO ARE THE TWO OR THREE PEOPLE YOU OR YOUR WIFE VISIT WITH MOST OFTEN?

41. TO WHOM IN THIS COMMUNITY DO PEOPLE USUALLY TURN FOR ADVICE ON GENERAL COMMUNITY ACTIVITIES? (Identify by
name and position in community).

42. WHAT ORGANIZATIONS SUCH AS CLUBS, CHURCHES, BUSINESS, FRATERNAL OR PROFESSIONAL GROUPS DO MEMBERS OF YOUR HOUSEHOLD ATTEND? LET'S START WITH YOU FIRST.

Instructions: The information in this section is to be obtained and recorded for each member of the household who is 13 years old or older. The respondent should be asked to name the groups and organizations to which he belongs. List these organizations and the location of their meetings and check the characteristics of the respondent’s attendance which apply.

<table>
<thead>
<tr>
<th>(a) Name &amp; Location of Organization</th>
<th>(b) Member?</th>
<th>(c) Attends 1/2 or more of meetings</th>
<th>(d) Officer or Committee Member within past 2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) (Head)</td>
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<td>(1) (Wife)</td>
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<td>(1) Other Household member (specify)</td>
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</table>
43. DO YOU READ ANY NEWSPAPERS OR MAGAZINES REGULARLY?

YES [ ]  NO [ ]

43a. WHICH NEWSPAPERS AND MAGAZINES? (If a subscriber, check "S" Column.)

<table>
<thead>
<tr>
<th>Papers</th>
<th>S</th>
</tr>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Magazines</th>
<th>S</th>
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</table>

44. DO YOU HAVE A:

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<th>YES</th>
<th>NO</th>
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<td>Home freezer</td>
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<tr>
<td>Telephone</td>
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<tr>
<td>All inside plumbing</td>
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<td></td>
</tr>
<tr>
<td>Car</td>
<td></td>
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</tr>
<tr>
<td>TV</td>
<td>IS IT WORKING OR BROKEN</td>
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<td></td>
<td></td>
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<td>Radio</td>
<td>IS IT WORKING OR BROKEN</td>
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</table>

IS IT WORKING OR BROKEN

About how long

45. HOW MANY MONTHS HAVE YOU OR YOUR WIFE WORKED FOR PAY IN THE LAST 12 MONTHS?

<table>
<thead>
<tr>
<th>3 mos.</th>
<th>4-6 mos.</th>
<th>7-9 mos.</th>
<th>10-12 mos.</th>
<th>NONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>or less</td>
<td>mos.</td>
<td>mos.</td>
<td>mos.</td>
<td></td>
</tr>
</tbody>
</table>

HEAD: [ ] [ ] [ ] [ ] [ ]

WIFE: [ ] [ ] [ ] [ ] [ ]
46. ARE YOU OR YOUR WIFE WORKING NOW?
   HEAD: YES [ ] NO [ ]
   WIFE: YES [ ] NO [ ]

47. FOR WHOM DO (DID) YOU WORK? HOW LONG? (Name of company, business, organization, or other employer)

<table>
<thead>
<tr>
<th>Employer</th>
<th>Tenure (yrs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAD:</td>
<td></td>
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<tr>
<td>WIFE:</td>
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</tbody>
</table>

48. WHAT KIND OF WORK DO (DID) YOU DO? (For example, 8th grade English teacher, paint sprayer, repair TV sets, grocery checker, farmer, farm hand)

| HEAD: | |
| WIFE: | |

49. ABOUT WHAT WAS YOUR FAMILY INCOME IN 1964 BEFORE ANY DEDUCTIONS WERE TAKEN FOR TAXES, BONDS, DUES, OR OTHER ITEMS: (If exact figures are not shown, get best estimate. If self employed, i.e., farmer, business owner, ask for income after expenses were paid.)

[ ] Less than $2,000 [ ] $3,000-4,999 [ ] over $7,000
[ ] $2,000-2,999 [ ] $5,000-6,999 [ ] refused or don't know
APPENDIX B

NAME_________________________ DATE_________________

STREET OR ROUTE NO.___________ POST OFFICE_____________________

NAME OF COMMUNITY YOU LIVE IN_____________________________________

1. DOES YOUR FAMILY OWN ANY LIVESTOCK? YES__ NO__
   la. WHAT KINDS AND HOW MANY?_____________________________________
   lb. DO ANY OF THEM GRAZE ON THE OPEN RANGE? YES__ NO__
   lc. DO ANY OF THEM GRAZE ON NATIONAL FOREST LANDS?
      YES__ NO__

2. WE SOMETIMES SPEAK OF SOME OCCUPATIONS AS BEING MORE
   (DESIRABLE) THAN OTHERS. IN YOUR OWN PERSONAL
   OPINION, WHICH OF THE FOLLOWING OCCUPATIONS WOULD YOU
   SAY IS THE MOST (DESIRABLE) FOR A YOUNG MAN, SECOND,
   THIRD, FOURTH?
   ___ AUTO REPAIRMEN    ___ CARPENTER
   ___ ELECTRICIAN       ___ SCHOOL TEACHER
   ___ FOREST RANGE      ___ CLERK IN STORE
   ___ DENTIST

3. ARE THERE ANY FIRE PREVENTION POSTERS IN THIS BUILDING?
   YES__ NO__

4. WHAT WORDS ARE ON THE POSTER?_____________________________________

5. IS THERE A PICTURE ON THE POSTER? YES__ NO__

6. WOULD YOU DESCRIBE THE POSTER_____________________________________

7. WHICH ONE OF THESE IS THE ONE YOU SAW? 1.__ 2.__
   3.__ 4.__ 5.__

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MASS MEDIA SYMBOLS EMPLOYED IN EXPERIMENT

GREYHOUND

THE JOLLY GREEN GIANT

"HIS MASTER'S VOICE"

DOG AND PHONOGRAPH—RCA

ELSAE THE COW—BORDENS

SMOKEY THE BEAR

CHEVROLET EMBLEM
VITA

The author was born August 12, 1934, in Spartanburg, South Carolina. He was graduated from Bob Jones Academy, Greenville, South Carolina in 1952. He attended Tennessee Temple College, Chattanooga, Tennessee and was graduated from that school in 1956 with the Bachelor of Arts degree in religion with a minor in social science. After his marriage in 1956 to the former Mary Naomi Lutz of Orlando, Florida, he began graduate study at the University of Georgia. He transferred to Baylor University, Waco, Texas, from which he graduated in 1958 with the Master of Arts degree in religion and a minor in sociology.

Following graduation from Baylor University, the author enrolled in New Orleans Baptist Theological Seminary from which he received the Bachelor of Divinity degree in 1962. While enrolled in the seminary, he continued graduate study in sociology and anthropology at Tulane University. In the spring of 1964 the author began graduate study in sociology at Louisiana State University and is now a candidate for the degree of Doctor of Philosophy in Sociology.
Candidate: Benjamin Eugene Griessman

Major Field: Sociology

Title of Thesis:

The Perception-Retention of Fire Prevention Messages: An Aspect of Communication Research

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination: