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THE EFFECTS OF OPEN-CLOSED MODIFICATIONS AND HIGH AND LOW
DOGMATIC TYPES ON COMPREHENSION, CREDIBILITY, ATTITUDES

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ELDON E. WALKER
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THE EFFECTS OF OPEN-CLOSED MODIFICATIONS AND HIGH AND LOW
DOGMATIC TYPES ON COMPREHENSION, CREDIBILITY, ATTITUDES

APPROVED BY

H. Dayland Cummings

Erwin P. Bettenger

Wm. Carmichael

Paul A. Baugh

Larry E. Foltz

DISSERTATION COMMITTEE

PLEASE NOTE:

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Introduction

Communication students are interested in the variables which affect the meaning of a message as it is received by some person or persons. It is a basic research goal of communication theorists to discover those language variables which make a difference. In general, they wish to know what combination of variables which, if manipulated independently, will produce differences in meaning to the receiver.

Previous descriptive and experimental research has discovered several significant correlations of various syntactical message variables with certain cognitive structures, responses, and abilities. Such research suggests that further manipulation of syntactical variables may prove valuable to the field of communication.

This proposal is designed to study experimentally one such manipulation of a syntactical variable in a given message communicated to differing types of receivers. The dependent variable is meaning as it is reflected in changes of attitude toward the topic and the source, and in comprehension scores. To be more specific, this study asks if different degrees of class content modifiers will affect differentially comprehension of the message, the credibility of the source, and the attitudes of high and low dogmatic receivers.

A random sample of subjects was drawn from the basic course in Speech Communication at the University of Oklahoma in the spring semester of 1971. Using the Powell-Troidahl (1965) shorter version of Rokeach's (1960) dogmatism scale, subjects were blocked into high and low (fixed independent variable) dogmatic groups based on a median split. At the same time, attitudes were ascertained on five topics of current interest. From these, one topic was selected which best approximated a theoretic distribution.

A persuasive message, presented in written form, was prepared on the topic chosen for use in this experiment. The message contained rationales for supporting the proposition, and asserted that persons opposing the proposition are ignorant and their objections unfounded. This basic message was the same for all experimental groups except for the alterations in syntax, the treatment variable. There were two syntactical treatment conditions: (1) modifiers of the main content classes in the message which were hypothesized as functioning to close those categories either inclusively or exclusively, and (2) modifiers which were hypothesized as functioning to keep the content categories open. Some operational definitions are in order.

Subjects and objects are syntactical categories which function to specify a "class of content" usually identified as persons, places, things, concepts, etc. In a like manner, predicates represent a class of content identified as

existences and actions. Hence, the content classes of a message can be defined operationally as any word or phrase which functions as a subject, object, or predicate. The important thing to note is that syntax identifies and relates message content in terms of classes or categories, even if the specified content is a singular.

It also should be stressed here that although conjunctions, prepositions, adjectives, adverbs--both words and phrases--generally function to modify, point and/or connect main content classes, they may in many sentence structures be an inherent part of the content class identified. "On the table," may identify the location of an object without being a part of the object. On the other hand, the "dining" in "dining table" is a definite identifying property of the class content.

Among the many syntactic modifications and connections which can be made, the two of most interest here are those which function to close or specifically leave open the content classes. Some examples of modifiers which close the content classes are all, none, always, never, either-or, and only. Examples of modifiers which serve to keep the categories open are some, sometimes, to a small degree, and partially.

One treatment group was given the basic message heavily weighted with only closing type modifiers. The second treatment group was given the basic message using

only open type modifiers. Following a Solomon modified four group design, two control groups were used. One control group received a message irrelevant to the experimental topic, but was given the same pre-posttests as the two experimental ones; the other group was given only the posttests.

Dependent variables were comprehension, source credibility, and attitude change. It was hypothesized that there would be differing effects on these dependent variables resulting from the different syntactical treatments upon stratified dogmatic types.

The structure of this study is as follows: Chapter I, Rationale and Hypotheses of the Study; Chapter II, Method of Analysis; Chapter III, Results and Discussion; Chapter IV, Summary and Suggestions for further study.

Chapter I

Rationale and Hypotheses

This chapter presents the theoretic considerations and hypotheses for this experimental study. The relevant literature is reviewed and compared with the conceptual analysis presented here. The organization of this chapter is in five parts: General Background; The Functions of Syntax; Comprehension, Credibility, and Attitudes; Syntax and Dogmatism; and Hypotheses.

General Background

The problem of meaning is of concern to many disciplines. Its importance is such that Langer (1964) asserted that the concept of meaning has become the dominant philosophical concept of our time. In psychology, the relatively new area of psycho-linguistics has become a prominent area in research. Communication, of course, has always been concerned with meaning as it relates to the response of receivers.

Experimentally, meaning has been studied in a variety of ways. Morris (1946) identified three levels of semiotics: semantic (sign to significate), pragmatic (sign to person), and syntactic (sign to sign). Creelman (1966), Osgood, Suci, & Tannenbaum (1957), and George Miller & McNeill (1954) review many of the theories and studies about meaning. Most

of these studies have been concerned with the semantic and pragmatic dimensions of signs. Syntactical meaning has been largely unexplored.

Although experimental studies in syntactical meaning are few, its importance has not gone unnoticed. Razran (1952) indicated some of the problems and contributions of syntax to meaning. Osgood (1957) showed his awareness of its importance, and Cummings (1970) produced a major descriptive study of syntax; he also suggested that Osgood's evaluative assertion analysis studies were syntactical. George Miller (1965) was stressing the need for a study of syntax when he said, "The meaning of an utterance is not a linear sum of the meanings of the words that comprise it [p. 187]."

In increasing numbers, researchers in communication have been reporting studies (to be reviewed later in this paper) relating to syntax, a fact indicative of its increasing significance. The importance of this variable should not be underestimated. The meaning of any set of words in a message is governed by the syntax; in that sense, it is the most important factor in a message.

Using a distinction made by Osgood (1966), syntax can be approached from two points of view: the obligatory and the variable. The grammatical rules governing sentence structure which make communication possible can be referred to as an "obligatory" syntax. The various means of expressing a given message content while remaining within the

obligatory framework can be thought of as questions about a "variable" syntax.

In the variable sense, "John threw the ball," and "The ball was thrown by John," says the same thing but with different structures. Both sentences are also grammatical in the "obligatory" sense.

"Threw John ball the," is immediately recognizable as an incorrect sentence, syntactically, by any native speaker--which is one criterion of whether a sentence is grammatical (Chomsky, 1961). This non-sentence violates the native patterns--patterns which must be agreed to if communication is to occur on other than chance basis.

This study is not interested in questions concerning the requirements of the obligatory syntax. This experiment is limited to a small subset of the "variable" type of syntax. Put in other terms, the same content of a given message can be communicated by many different structures, all of which can be correct grammatically. Given the requirements of a content and a grammar, will the use of differing type words, phrases, and sentences affect the meaning of the content as it is perceived by its receivers? It is from this general area that the specific experimental proposition is derived: What are the effects of open-closed type modifications of the message content on the comprehension, attitudes, and source credibility of high and low dogmatic receivers?

The Functions of Syntax

An essential cognitive ability, perhaps the most important one that a human possesses, is the ability to generalize and discriminate. This ability tells us everything from differences between edible and inedible foods, friendly and threatening actions, to good and bad anything.

The raw material for the generalization and discrimination processes is stimuli--stimuli capable of carrying differential characteristics of objects in our external and internal worlds. Whatever one takes meaning to be, the position here is that it results from comparisons of incoming stimuli interacting with past experiences. Such comparisons obviously could not occur without the differential properties of stimuli.

A person can look at a car and in one glance notice differences in color, patterns, textures, etc. Whether the car is responded to as being large or small, good or bad, bright or dull, real or fake will depend upon comparisons of one or more of its various characteristics with one's past experiences with cars, transportation needs, prestige, suggestion, etc.

On the other hand, verbal signs carry none of the characteristics of the significates they represent. Language makes up for this deficiency in two important ways: (1) its lexical component provides labels for all significates; everything which can be observed, imagined, inferred

is given a label; and (2) its syntactical component provides for word groupings according to specified usage functions. Subjects and objects (verb complements) identify a class of content commonly referred to as persons, places, things. Predicates function to identify a class of existences and actions (is, have, do, etc.), and relate these with subjects and objects. Prepositions, adjectives, and adverbs, both words and phrases, identify a class of content which functions to modify subjects, predicates, and objects. Other grammatical words and devices such as articles, conjunctions, relative pronouns, demonstrative adjectives, etc., usually do not represent content; they function variously, to point and to connect signs which do represent significates.

These lexical and syntactical elements can be specifically related to the process of generalization and discrimination. First, the lexical component of language serves both functions simultaneously. The act of stating any class word is the act of identifying a class of objects having certain similar characteristics in common which collectively are different from the common characteristics of all other objects.

Second, the syntactical component expresses relations within or among classes which can be identified as representing belonging or difference relations. In Osgood's (1957) evaluative assertion analysis, these relations would be characterized as associative and dissociative relations respectively.

Third, modifiers serve both generalizing and difference functions depending on usage. Some examples will help to clarify these relations.

In the sentence, "John is" (lexically speaking) "John" is a label for a specific member of the human class, different from all other humans in the class; and the label "is" represents a class of existences different from non-existences (negatives). The syntactical relation expressed in the sentence is one of belonging. It tells the receiver that "John" and "existence" are to be seen together.

In "Young John is an Indian," there are three relations: (1) "John" belonging to "existence," (2) "John" belonging to "Indian," and (3) "John" belonging to "Young." /Osgood (1963), utilized this type of sentence transformations.⁷ These relations are all belonging ones. Differences in these sentences exist only in the lexical sense of each word representing a different class. Now an important distinction must be made. "Young John" is a belonging relation; however, it may be used within a context as a means of expressing difference. For example, if within the context of the communication, there is a John Jr., and a John Sr., then the belonging relation "Young John" is used to express a distinction, i.e., Jr., not Sr.

Given the sentence, "John is part Indian," "part" is a modifier indicating a difference: "part Indian" is different from "Indian." In a like manner, the prepositional

phrase in "John is good in some ways," is indicative of a difference relation.

A shift to action verbs does not change the analysis. In "John murdered Bill," "John" is identified as belonging to an action class, "murderers."

Negatives, as in "John is not a murderer," represent difference relations. All, always, never, only, totally, etc., are modifiers which indicate an inclusive-exclusive relation of either the belonging or difference kind; they do not admit to degree, and hence the relations do not admit to exception. In the sentence, "All men have a nervous system," the belonging relation covers every member. These modifiers function to close the content classes, and will be subsequently referred to in this study as closing type modifiers. They will not always be single words; sometimes they may be sentences and even paragraphs.

Modifiers such as some, frequently, and to some extent specifically function to alert the receiver to the fact that the stated relation is one of degree and not an absolute one. These modifiers will be referred to as open type modifiers.

This brief analysis has been made to establish one important point: identifying, connecting, and separating significates with belonging or difference relations by means of grammar is the equivalent of generalizing and discriminating about direct observations of significates.

Comprehension, Credibility, and Attitudes

This representative process has significant consequences for communication. Signs make it possible not only to think and communicate about significates which are not present, but also about significates which have no objective existence outside the mind: Gods and devils, love, Socialism, good, etc. These advantages bring along certain inherent disadvantages.

The communication of content via representational means makes misrepresentation a relatively easy matter. It makes the credibility of any message questionable. Verbal signs can be manipulated at will, irrespective of reality and knowledge. They can be arranged to represent the opposite of the actual relations among significates.

The only direct check upon such deceptions is the receiver's past experience which may indicate that the stated relation is inconsistent with his prior knowledge. The check is as good as a person's experience; however, since a person's direct experience with the world is relatively small, the check is not all that strong. Certainly, it hasn't been strong enough to discourage deception. As a result of the frequent inability of receivers to check directly the truth of messages, a secondary, indirect means is often used: the receiver attempts to evaluate the source.

Representation also makes unintentional error easier. For example, representational thinking allows the creation

of strictly verbal categories: old people, good people, tall people. Such categories illustrate the serious problem of degree: how tall is tall? how many years lived equals old?

The problem with such verbal categories extends beyond one of degree. Persons may, and of course do, impose opposing values on the same external significates. "Labor union" may be idealized by some as the savior of the working man from the "greedy, selfish, thoughtless, inhuman business power combines," while others think of the unions as being the corrupt power brokers. Consequently, existing values, more than the incoming stimuli, will mediate the term when it is used in a message.

The language does not represent degrees in any adequate sense. Space can be scaled precisely, but tall and short are matters of relativity. Good and bad are inclusive terms, but what they represent can hardly ever be described in such an inclusive manner. At best, the language allows for a crude specification of degree by adding modifiers such as: sometimes, often, under some circumstances, most, etc. Hence, if "This is a great Democracy," is used in a message, the receiver has not only the problem of referent for the terms, but one of degree as well. These are matters of clarity.

These problems are traditionally referred to and studied as problems of source credibility, attitude change,

and comprehension. McGuire (1965) reviews these variables and their respective studies. Credibility is most frequently studied as an independent variable. It has come to be recognized as having strong persuasive appeal. McGuire (1965) reviews the many studies relating to credibility.

Recently, more studies have utilized credibility as a dependent variable in recognition of the fact that the attainment of a high credibility status also is achieved through communication (Gerald Miller & Lobe, 1967; Gerald Miller & Baseheart, 1969; and Bowers, 1963). That is, what a source says (as well as what is said and known about him) may influence his credibility rating with his receivers.

Attitude change, including the development of new attitudes, has long been thought to be a prerequisite to inducing behavior (McGuire, 1965). This assumption, however, has been challenged. Festinger (1957) produced attitude change following behaviorial change. Gerald Miller (1968) reviewed the problem with stress on the weak "pencil type" attitude measures and suggested further attempts to improve attitude measurement. Zimbardo & Ebbesen (1969) reported a "social learning" theory of behavior which discards the attitude concept altogether.

Such attacks may serve the vital function of refining and improving research, but it isn't likely that the attitude concept will be ignored. These critics have shown that attitudes (at least as measured) and behavior do not

correspond in many cases. The lack of correspondence in some cases should not suggest that attitude is consequently a useless concept. Something akin to what is labeled "attitude" exists and such attitudes serve useful functions for man (Katz, 1960).

Comprehension of the message is an obvious prerequisite to securing the desired response. The learning of a given response must follow comprehension of at least the proposal of the source. It is therefore a crucial variable in communication.

A summary of the development of the rationale for this study is in order. Since language is representational, the important cognitive process of seeing objects as belonging together (generalization) on the basis of similarity of characteristics, or distinguishing objects on the basis of differing characteristics (discrimination) is managed grammatically in two ways. First, all significates are labeled. Second, such verbal signs are then syntactically grouped into functional classes: subjects, predicates, objects, modifiers, connectors, etc. The arrangement of these classes into sentences serves the function of identifying significates (i.e., things, existences, actions) and indicating which ones belong or don't belong together.

Three problems of representation were discussed. Verbal signs make it easy for intentional deception and unintentional errors to be made; different people do have different values

for the same significates; and, content and content relations concerning either external or internal categories are often subjective matters of degree.

The representational problems introduce source credibility, attitudes, and comprehension as major variables affecting the meaning of verbal communication. For these reasons, communication researchers often choose one or more of these variables for experimental study. They can and have been used as both independent and dependent variables. In this study, they will be dependent variables.

Syntax and Dogmatism

We have seen that syntax contributes to the cognitive processes of generalization and discrimination. In this section, the relation between open-closed modifiers and dogmatism via generalization-discrimination will be explored.

Cognitive structures determine the way in which we view the world. Walter Lippmann (1966) in his now classic paper on stereotypes pointed out the fact that people develop cognitive categories which influence the way we perceive a subsequent and related event. He called these categories stereotypes:

The subtlest and most pervasive of all influences are those which create and maintain the repertory of stereotypes. We are told about the world before we see it. We imagine most things before we experience them. And those preconceptions, unless education has made us acutely aware, govern deeply the whole process of perception [p. 72].

There is the suggestion here that language has much to do with the development of these stereotypes, a point which will be reinforced shortly.

There is no question but that stereotypes exist. Learning theorists may refer to them as habits or habit family hierarchies, and social psychologists may refer to them as sets, attitudes, or dispositions to respond, but by whatever name, they are structures which influence our perceptions of an event and our subsequent response to it.

These structures are developed with and influenced by language (Whorf, 1956). What we choose to focus on, both real and imaginary, in a given situation is partially a function of the way a given language substitutes for direct stimulation from the "real" world.

The specific nature of the mental transaction which occurs when a feature of grammar functions as stimuli is still unknown. Various theories have arisen attempting to account for the known facts. Osgood (1957) reviews several of these approaches and offers his own mediation hypothesis. In essence, a verbal sign becomes so, via contiguity with an established sign, when it can call forth a fraction (mediated) of the original response. The mediated response can then become conditioned to other and new responses. This hypothesis goes far to explain how we come to learn language and to make new responses.

If we add Osgood's evaluative assertion analysis to his mediation hypothesis, an explanation of the development

of structure begins to emerge. In brief, the meaning of a given relation is the result of the interaction of the mediating responses of connected signs. These connections are associative (belonging) or dissociative (difference) types. Given a connection between a "good" and President Nixon, made either by verbal assertion or by some act considered "good" which was performed by Nixon, the interaction of the separate mediating responses when connected produces a new cognitive category, a new structure.

Osgood (1957) says that if such connections are repeated, they will, like any other learning response, tend to become stable connections. In this manner, new categories can be developed and related in network and hierarchical fashion. The empirical evidence reported with the theories supports their analysis.

It is assumed here that the learning of any feature of grammar can be explained by Osgood's constructs. Insofar as the obligatory features of grammar are concerned, the developing cognitive structures should be relatively similar across persons within a given language community. Otherwise communication would be virtually impossible.

The variable features of grammar interacting with individual experiences provides some reason to expect greater structural variability among persons. Such differences should be relatively small when the structures were developed with signs representative of the real world; the

major differences in cognitive structures should exist as a result of interacting signs, at least one of which is exclusively subjective, i.e., good water, tall people, strong and active athlete, etc.

These are unique structures, but Osgood (1957) reports that in such combinations the adjective is dominant. For example, the adjective "good" dominates the noun "water." Cliff (1959) reports that adverb-adjective combinations function multiplicatively. Bowers (1964) found that language intensity was correlated ($r = .89$) with the presence of qualifiers such as most, and least. Howe (1962) predicted a correlation relation of adverbs and adjectives ($r = .987$) when the adverbs were probabilistic; a correlation ($r = .999$) was achieved when both intensity and probabilistic adverbs were used. Lilly (1968a; 1968b) replicated the multiplicative function of adverb-adjective combinations and demonstrated that it held for the potency dimension as well as the activity and evaluative ones.

All of these studies were concerned with the effect of modification of one sign by another. All of them relate also to matters of degree; they are not categorical. The product of these interacting signs should be quite different across individuals because of the problems of degree and strictly subjective categories. Within limits, these individual differences can be ascribed to differences in individual abilities to discriminate. The greater the

individual ability to make distinctions, the more refined these structures should be. A poor ability to discriminate should produce structures with few distinctions.

Although there can be large differences in cognitive structures across individuals, there is some evidence which suggests that within an individual there is a similarity of mediated structures. Rokeach (1960) upholds the notion that humans have belief-disbelief systems. He specifically points out that an individual's belief-disbelief systems relate to a general cognitive structure; that belief-disbelief systems are topic-free. An individual, for example, who tends to be closed-minded about race, would, according to Rokeach, also tend to be closed-minded about religion, education, and government.

Baron (1965) reported a study which makes a similar assumption about cognitive structure within an individual. He divided subjects into groups on the basis of an assimilation-differentiation continuum. He found significant differences between the two groups in attitude change and recall; but the point of interest here is that some minds tend to assimilate with less discrimination than others. Baron's assimilators and differentiators are at least not unlike Rokeach's high and low dogmatic types, respectively.

A most challenging question now arises. Why do high dogmatic types develop tendencies to consistently assimilate many topics with little discrimination? Is it because the

incoming stimuli are mediated by existing impoverished structures? Or, is there some general process which develops within each individual and somehow selectively controls which stimulus pattern interacts with which existing structures? Similar questions could be asked about open-minded people.

This paper cannot begin to answer these questions. However, regardless of whether there is some general process of generalization-discrimination, or whether the generalization-discrimination is inherent in Osgood's mediation process, this paper assumes that it is an intervening variable, which is inherent in every mental interaction. This is consistent with the views of Rokeach and Baron relative to general mental tendencies. Somehow, between stimuli and existing cognitive structures, generalization and discrimination function to identify and relate content on the basis of belonging and difference relations.

Earlier in this paper, the grammatical features which indicate belonging and difference relations were specified, one of which was open-closed modification. By way of summary, modification has been demonstrated to be very important to the meaning of a given message. Open-closed modification is one syntactical device which attempts to represent degree of relation. Since humans create some strictly subjective categories and place judgements on virtually every stimulus; and since both of these general problems involve the problem of degree, open-closed modification should bear some relation to one's generalization-discrimination abilities.

If high dogmatic types are somewhat deficient in discrimination, they should tend to be less aware of degrees involved in relations; and low dogmatic types should be more sensitive to degrees. Given this assumption, it would be reasonable to expect high dogmatic people to encode more relations which are closed inclusively or exclusively with closing-type modification; and low dogmatic types should encode more relations qualified by opening-type modifications. There is some evidence for this view.

Kline (1970) found significant differences ($p < .05$) between high-low opinionated statements and stereotypy. It should be noted that Kline's "opinionated" statements have a similarity to, but are not the same as the "opinionated and nonopinionated" statements of Rokeach (1960). Kline's statements are expressions of belief, while Rokeach's non-opinionated statement is an expression of belief towards a topic, but his opinionated statement specifies an expression of belief for a given topic and a negative belief about those who are against it. Kline also found that high opinionated statements used more "allness" type terms than low opinionated statements. The differences were in the predicted direction, but they were not significant at the $p < .05$ level.

Cummings (1970) found that low dogmatic subjects significantly ($p < .001$) encoded more subject words, limiters, and connectors than high dogmatic types. This relationship does not specify modification by the type conceptualized in

this study; however, the tendency for low dogmatic subjects to use more limiters is consistent with the expectation here, as more limiters would be indicative of greater awareness of degrees.

Osgood (1955), Cliff (1959), Howe (1962; 1966), Lilly (1968a; 1968b), McEwen (1969) report results of studies about language intensity. The only relevance of these studies here is that they indicate the importance of modification to the meaning of a concept or message. A specific study of message intensity will be reported shortly which will illustrate the differing concepts of modification present in message intensity vs the open-closed distinction being made here.

These studies on intensity and encoding behaviors have been for the most part descriptive in nature. They provide some, albeit meagre, empirical evidence to suggest that there are relations between syntax and encoding behavior. However, communication researchers are interested in effects of messages upon receivers in decoding positions. A few studies have attempted to study syntax on decoding behaviors.

Bowers (1963) studied the effects of language intensity on subjects differing in levels of social introversion on attitudes toward the topic and the source. Of six hypotheses, only one reached significance at the $p < .05$ level: he found that the extrovert group changed their attitudes toward the message topic more than a middle group, and the middle group changed more than the introverted group. This finding, however, was the opposite of what he predicted.

Kochevar (1967) studied the effects of message intensity on the evaluation of the source, topic, and message. No significant differences were found between high and low intensity messages upon the dependent variables. Kochevar's study is similar in some respects to the experiment reported in this paper. Many of the modifiers used by Kochevar are the same as will be used in the messages prepared here; however, there are also many differences. Kochevar selects his subjects at random; there is no stratification into types as there is here. More important, message intensity and open-closed modification are conceptually and operationally different (a fact which applies equally well to the other intensity studies already reported). For example, in Kochevar's high-low intensity messages can is rated as more intense than might, but neither word in context closes the category. In a similar manner, most is rated higher than many, but neither closes the content category.

Another important difference is that both high and low intensity messages of Kochevar contain many open-closing type modifications. For example, there are 16 open type modifiers which are the same in both messages, e.g., many people, generally believe, likelihood of infection, etc. Also many closed modifications appear in both messages. Under these circumstances, no test of the open-closed modification concept is possible.

Gerald Miller and Lobe (1967) reported a study about the effects of opinionated and nonopinionated statements on

subjects of high and low dogmatic types and found no significant interaction of the two variables. In a follow-up study, Gerald Miller and Baseheart (1969) added credibility as a third independent variable, but still found no significance for variations in open- and closed-mindedness of receivers. Mehrley and McCroskey (1970) reported significant results using opinionated statements, credibility, and attitude intensity as predictors of attitude changes. In each of these studies their (Rokeach type) opinionated vs nonopinionated statements do not correspond to the opening-closing modification concept used in this study; for, opening and closing type modifications are used in both treatment conditions. Their opinionated-nonopinionated statements probably relate more to the extra weight of added meaning to the content than to syntactical effect. What they seem to be measuring is the effects of a message with strong belief type statements concerning a given topic, vs the effects of a message with strong belief type statements concerning a topic combined with strong belief type statements about persons who are opposed to the position of the source.

In summary, the several studies reported here have provided some evidence to suggest that modification is important to meaning; that there may be important relations between syntax and encoding behavior; and that very little evidence exists concerning syntax and decoding behaviors.

Hypotheses

The foregoing analysis would suggest that open- and closed-minded persons exhibit general differences in generalization-discrimination abilities. As a consequence, open-minded people are expected to be more sensitive to distinctions, to degrees of similarities and differences than closed-minded people. Open-closed type modification is one syntactical variable which represents degrees of similarities and differences. On this basis, the following predictions are made:

Hypothesis 1: The use of opening and closing type modifications will have differential effects on the comprehension of subjects rated as high and low dogmatic types.

Hypothesis 2: The use of opening and closing type modifications will have differential effects on the source credibility ratings by high and low dogmatic types.

Hypothesis 3: The use of opening and closing type modifications will have differential effects on the attitudes of subjects rated as high and low dogmatic types.

Chapter II

Method of Analysis

In Chapter one, a rationale was developed for expecting opening-closing type modification to interact with high and low dogmatic types. High and low dogmatic types were shown to have differing discrimination abilities. Discrimination was shown to be related to matters of degree. Opening-closing modification is one syntactical device which represents degrees. This chapter develops the procedures, variables, design, manipulation checks, and method of data analysis used in testing the possible interaction of opening-closing modifications with high and low dogmatic receivers.

Procedures

Subjects. Two samples of subjects ($N = 162$) and ($N = 129$) were selected from the basic course in Speech Communication at the University of Oklahoma, Spring, 1971. The large sample ($N = 162$) was used only for selecting the experimental topic. Generalizability of the results of this experiment conducted on the second sample ($N = 129$) is technically limited to the statements about the population from which they have been selected, i.e., students in the basic course in Speech Communication.

Sampling procedure. On the basis of the Powell-Troldahl (1965) dogmatic test, subjects ($N = 129$) were divided on the

basis of a median split into high and low dogmatic groups. Within the high and low groups, each subject was randomly assigned to either a pretest or unpretest condition. Subjects were then subdivided by random assignment to either the open, closed, or control conditions.

Testing procedure. The attitudes of subjects (N = 162) were measured on five topics for the purpose of selecting one topic which best represented a theoretic distribution. The topic selected on this basis was "Church Involvement in Politics." The descriptive statistics for this judgement are listed in Appendix A.

The attitudes of the subjects designated to receive pretests were measured on the experimental topic along with two others not of interest here. One week later, the subjects were given one of the two "modified" messages, both attributed to the same source. Control subjects were given a message unrelated to the treatment message. Immediately following the reading of the message, the subject answered questions testing his comprehension of the message; took an attitude measure on the message source, and a second attitude measure on the message proposition. A debriefing session followed the experiment.

Independent Variables

Dogmatism. Stratification into high and low dogmatic types was necessary to test the interaction hypothesis of

syntax and dogmatism. The 20-item Powell-Troidahl (1965) dogmatism scale is shorter and more efficient, with little loss in reliability, than the original 44 item test of Rokeach (1960).

Open modification of the content classes of the message. The content of any message is grammatically arranged in terms of classes. For this study, the content classes of a message are operationalized as (1) subjects, objects, predicates, and (2) any modification which represents an inherent characteristic of a subject, object, or predicate; e.g., in "the red book is on the top shelf of the bookcase," "red" is a modification representing an inherent characteristic of the class content "book," while "top" and "of the bookcase" are modifications which point to the book's spatial position.

Opening type modification is herein operationalized as any word, phrase, or clause which qualifies the content being emphasized at a given point in the message; further, that such qualification should function to keep the content classes and their specified relations open. In other words, it must alert the receiver that the content relations being discussed are in some way matters of degree. An example can be more specific:

- A. President Nixon favors revenue-sharing.
- B. Nixon generally favors revenue-sharing.
- C. Nixon favors most aspects of revenue-sharing.

In sentence A, there is no open-type modification. Nixon is modified by "President" but that modification is not expressive of degree. The belonging relations: Nixon-to-President, and Nixon-to-revenue-sharing are stated as absolutes. The relations, syntactically, do not admit of degree.

In sentence B, the belonging relation of Nixon-to-revenue-sharing is qualified in such a manner as to indicate that the "favoring" is a matter of degree; that is, he likes some aspects better than he likes other aspects of it.

Sentence C indicates that the favoring relation is now limited to some aspects of revenue-sharing; i.e., revenue-sharing is no longer inclusively related to favoring; some exception has been made, but the exception is a matter of degree since the boundary reduction is nonspecific. This sentence implies that at least one aspect of revenue-sharing is not favored by Nixon.

Closed modification of the content classes of the message. Closing type modification is operationalized as any word, phrase, or clause which functions to close the content and specified relations either inclusively, or exclusively. For example:

- A. Nixon gives his full support to revenue-sharing.
- B. There is no doubt about Nixon's recent drop in popularity.

In sentence A, "full" is the word which closes the belonging relation of "Nixon-to-revenue-sharing"; no matter of degree is implied in the relation. In sentence B, the phrase "there is no doubt" closes the matter to further consideration.

The messages in both treatment conditions are the same except for their respective modification differences. Both messages contain exactly the same number of words. For every closed modification, there is an open one; and, in most cases the number of words for each change is exactly the same in both conditions. In a few cases, this wasn't possible. The separate messages are in Appendix B.

Dependent Variables

Three dependent variables were used in this study: comprehension, source credibility, and attitudes.

Comprehension. A 20-item multiple-choice test over the message material was prepared and given to determine how much of the message content was understood by the subjects. The last item was not scored for comprehension; it was used as a check upon the strength of the messages. The test placed primary emphasis upon the subject's ability to discriminate degrees of meaning written into the message. Since the comprehension test was not a standardized one, the raw scores were corrected for chance factors using the following a priori scoring formula (Guilford, 1954):

$$S = R - \frac{W}{K-1}$$

S = corrected score, R = number of right answers, W = number of wrong answers, and K = number of alternatives available.

These corrected posttest scores were subjected to a 2 X 2 factorial analysis of variance testing the treatment effect on this variable (Winer, 1962). The comprehension test is included in Appendix B.

Credibility. A semantic differential having five bi-polar scales was used to measure the credibility of the message source. They were: good-bad, friendly-unfriendly, reasonable-unreasonable, expert-inexpert, and tolerant-intolerant. All of these scales except two were selected from the factor analytic studies of McCroskey (1966). Tolerant-intolerant, reasonable-unreasonable, the exceptions, were chosen because of their intuitive appropriateness to the treatments used here. This procedure has some precedence (Osgood, Suci, and Tannenbaum, 1957; Sereno (1968)). In both of these cases some scales were chosen intuitively.

As was noted earlier, credibility is considered a powerful variable. It was felt that a source high in credibility with the subjects might be strong enough to reduce the effect of the treatment. For this reason, the subjects were told that the source of the message is a college student at the University of Oklahoma majoring in philosophy. Philosophy was selected in an attempt to provide the subject

with an initial impression that the source was objective or at least not known to be prejudiced about the topic. Post-test scores were then subjected to a 2 X 2 factorial analysis of variance.

Attitudes. A semantic differential having five bi-polar scales was used to pretest the attitudes of the subjects on the experimental topic and two others. The scales used were: good-bad, foolish-wise, beneficial-harmful, unfair-fair, and worthless-valuable (McCroskey, 1966). The same scales were used in the posttest measurement of subjects' attitudes toward the message topic. The difference scores were then subjected to a 2 X 2 factorial analysis of variance.

Design

A modified Solomon (1949) group design was used in this experiment. Its specific components are:

- Y₁: pretest, open modification, posttest
- Y₂: _____ open modification, posttest
- Z₁: pretest, _____, posttest
- Z₂: _____, posttest
- X₁: pretest, closed modification, posttest
- X₂: _____ closed modification, posttest

This design functions to provide external validity checks upon any significant effect that might be obtained. Specifically, effects are controlled for history, maturation, test sensitizing, and pretest--treatment interaction

sources of variance (Campbell & Stanley, 1963). The comparisons made for these controls will be specified under manipulation checks.

Manipulation Checks

The sampling procedures produced the following hierarchy of cells:

$C_1B_1Ax(Hi, closed, pretest)(Lo, closed, pretest)C_2B_1Ax = \text{Solomon } y_1$
 $C_1B_2Ax(Hi, closed, ______)(Lo, closed, ______)C_2B_2Ax = \quad y_2$
 $C_1B_1Ay(Hi, open, pretest)(Lo, open, pretest)C_2B_1Ay = \quad x_1$
 $C_1B_1Ay(Hi, open, ______)(Lo, open, ______)C_2B_2Ay = \quad x_2$
 $C_1B_1Az(Hi, control, pretest)(Lo, control, pretest)C_2B_1Az = \quad z_1$
 $C_1B_2Az(Hi, control, ______)(Lo, control, ______)C_2B_2Az = \quad z_2$

Ax and Ay represent the closed and open treatment groups respectively. Az stands for control, B₁ and B₂ are pretest and no pretest conditions respectively, and C₁ and C₂ are high and low dogmatic types respectively. For all individual cells (n = 10); combining the two cells across each row produces the data cells for the Solomon design.

Campbell & Stanley (1963) recommends a 2 X 2 factorial analysis of variance for controlling extraneous variance related to this design. Since the Solomon design here was applied to two independent variables, two 2 X 2 factorial analyses of variance were computed:

Closed Modification Condition

	no x	x
Pretest	z ₁	x ₁
Unpretest	z ₂	x ₂

Open Modification Condition

	no y	y
Pretest	z_1	y_1
Unpretest	z_2	y_2

(All cells are given Solomon labels)

The main effect of x (and y) is a test of the treatment effect. The main effect of pretest-unpretest is a control for history and pretest sensitizing effect. The interaction of x--no-x and pretest--no pretest serves as a control for testing and treatment interactions.

Analysis of Data

Since the manipulation checks did not produce any significant differences due to extraneous variables, the data was collapsed into a 2 X 2 factorial analysis of variance. The pretest--no pretest factor was ignored which produced these cells:

	Closed	Open
High	C_1Ax	C_1Ay
Low	C_2Ax	C_2Ay

The 2 X 2 analysis of variance was repeated for each dependent variable. The primary research hypothesis is one of interaction for each dependent variable, credibility, comprehension, and attitudes:

- H_1 : Closing and opening modification conditions will result in differential effects upon high and low dogmatic receivers ($p < .05$; two tail; H_0 : $\mu_1 = \mu_2 = \mu_3 = \mu_4$)

Although the interaction hypotheses did not achieve significance, all main effects were tested for differences. Had the data warranted it, comparison of simple effects would have been carried out. Based on the notion that high dogmatic subjects are less discriminating than low dogmatic subjects, the following secondary research hypotheses were made:

Comprehension

Main effect

- H₂: Levels of dogmatism will produce significant differences in message comprehension.
 $(C_1Ay + C_1Ax \neq C_2Ay + C_2Ax \text{ at } p < .05, \text{ two tail})$

Credibility

Simple effect

- H₂: Low dogmatics receiving the open treatment will rate the source higher than low dogmatic subjects receiving the closed treatment.
 $(C_2Ay > C_2Ax, p < .05, \text{ one tail})$
- H₃: High dogmatics in both treatment conditions will rate the message source equally.
 $(C_1Ay \neq C_1Ax)$

Attitudes

Main effect

- H₂: Levels of dogmatism will produce significant differences in attitude changes.
 $(C_2Ay + C_2Ax = C_1Ay + C_1Ax \text{ at } p < .05, \text{ two tail})$

Linear combination comparison

- H₃: Low dogmatics in the open condition will make greater favorable change than all other groups.
 $(C_2Ay > C_2Ax, C_1Ay, C_1Ax \text{ at } p < .05, \text{ one tail})$

A student's t-test (Winer, 1962) was selected for testing the a priori comparisons; the ones specified here

are those which would appear to support the research hypothesis if the results are in the predicted direction.

A Scheffe's t-test (Kirk, 1969) was selected to test any post hoc comparisons warranted by inspection of the data.

This chapter has presented the necessary pre- and post-experimental procedures. Pretest and posttest booklets are reproduced in Appendix B.

Chapter III

Results and Discussion

This study examined the effects of open-closed type modification upon comprehension, credibility, and attitudes of high and low dogmatic receivers. The main research hypotheses predicted interaction between the syntactical and dogmatism variables. In addition, a few secondary hypotheses were made. By way of review, all hypotheses are repeated here by dependent variables.

Comprehension

- H₁: The use of opening and closing type modifications will have differential effects on the comprehension of the subjects rated as high and low dogmatic types.
- H₂: Levels of dogmatism will produce significant differences in message comprehension.

Credibility

- H₁: The use of opening and closing type modifications will have differential effects on the source credibility ratings by high and low dogmatic types.
- H₃: High dogmatics in both treatment conditions will rate the message source equally.

Attitudes

- H₁: The use of opening and closing type modifications will have differential effects on the attitudes of subjects rated as high and low dogmatic types.

- H₂: Levels of dogmatism will produce significant differences in attitude changes.
- H₃: Low dogmatics in the open condition will make greater favorable attitude change than all other groups.

Results

Topic selection. Church involvement in politics, college student protests, and the candidacies of Richard Nixon, Edmund Muskie, and Fred Harris were the five topics selected for pretesting in the first stage of the experiment. The purpose was to select the one topic having the best theoretic distribution. Church involvement in politics appeared to have the better distribution. The other topics were either more skewed or peaked (see Figures 1 through 5). Further descriptive statistics supporting this conclusion are listed in Appendix A.

Subject attrition. Subjects (N = 129) took the dogmatism test. Of these, eleven were lost due to absences, and four due to incomplete answers. The test data of the remaining subjects (N = 106) was accepted for analysis.

Reliability manipulations. The Solomon controls for both the closed (N = 61) and open (N = 60) conditions provides support for significant treatment effects uncontaminated by extraneous variables. Tables 1 and 2 report significant effects for both the open and closed conditions. No significant pretest-unpretest effects, or pretest-treatment--interaction effects were found.

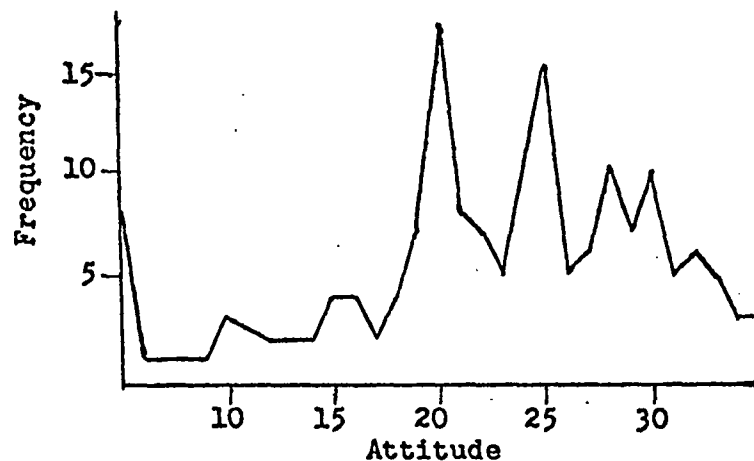


Figure 3
Frequency Distribution; Topic 3
Candidacy of Richard Nixon

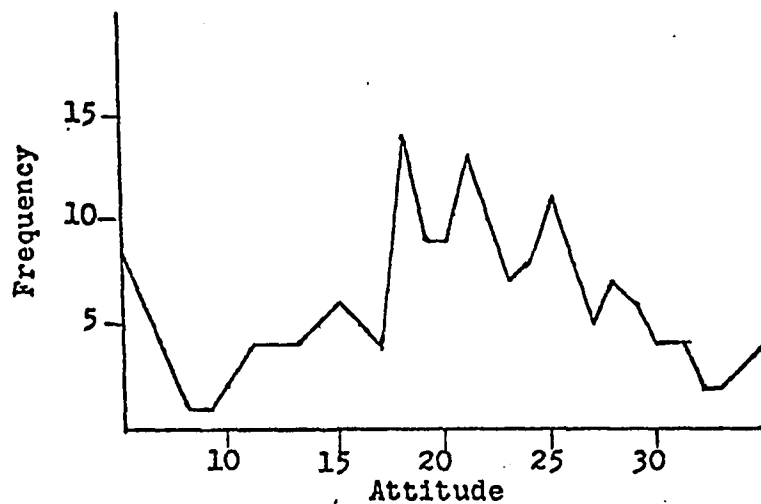


Figure 1
Frequency Distribution; Topic 1
College Student Protests

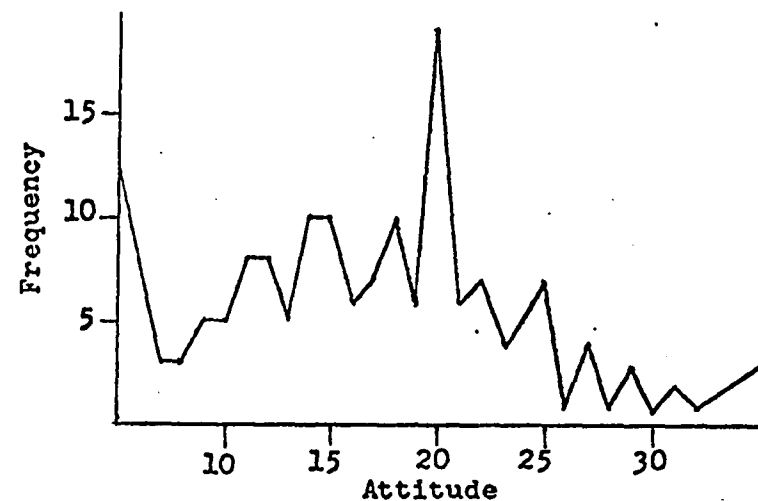


Figure 2
Frequency Distribution; Topic 2
Church Involvement in Politics

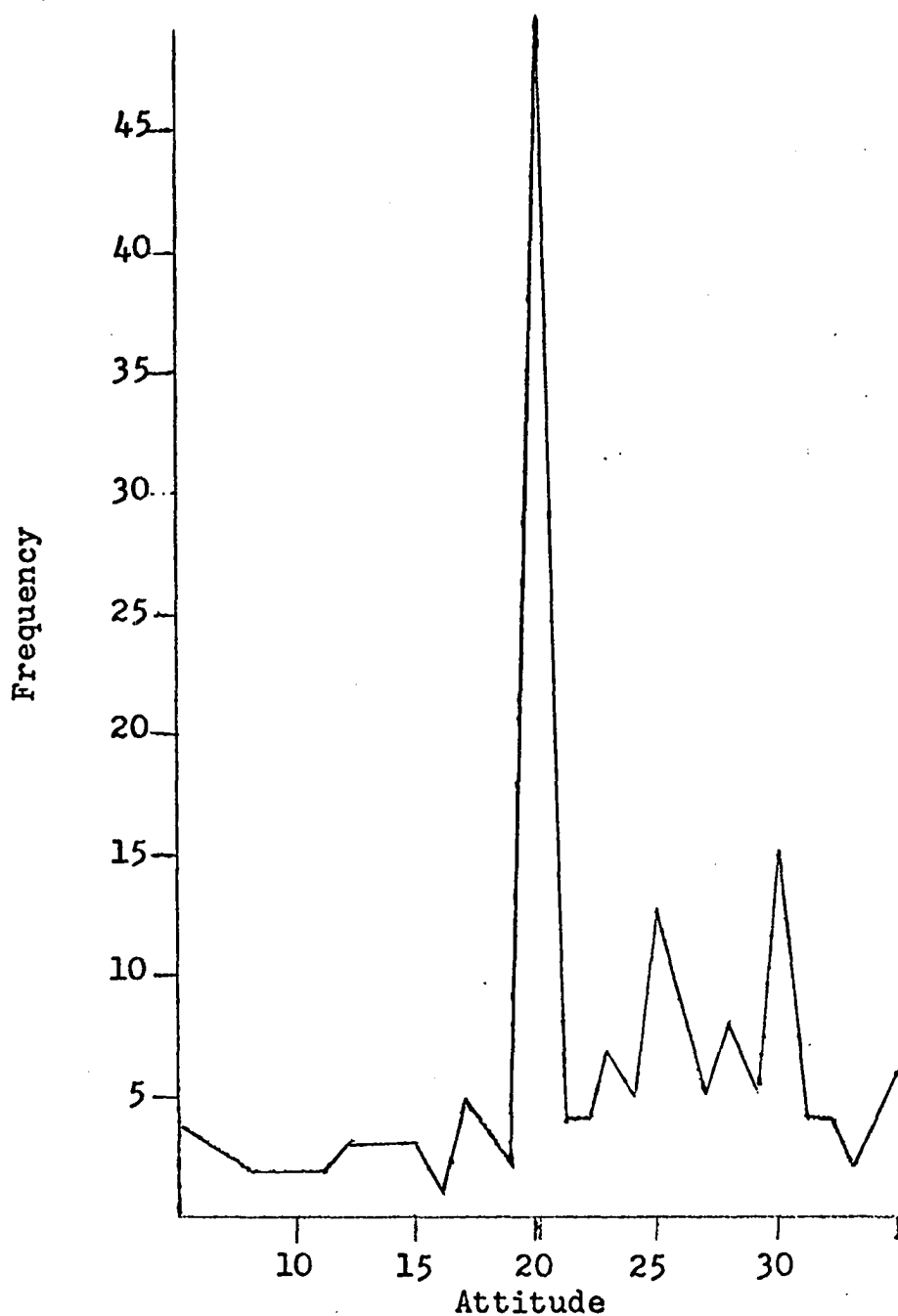


Figure 4
Frequency Distribution; Topic 4
Candidacy of Edmund Muskie

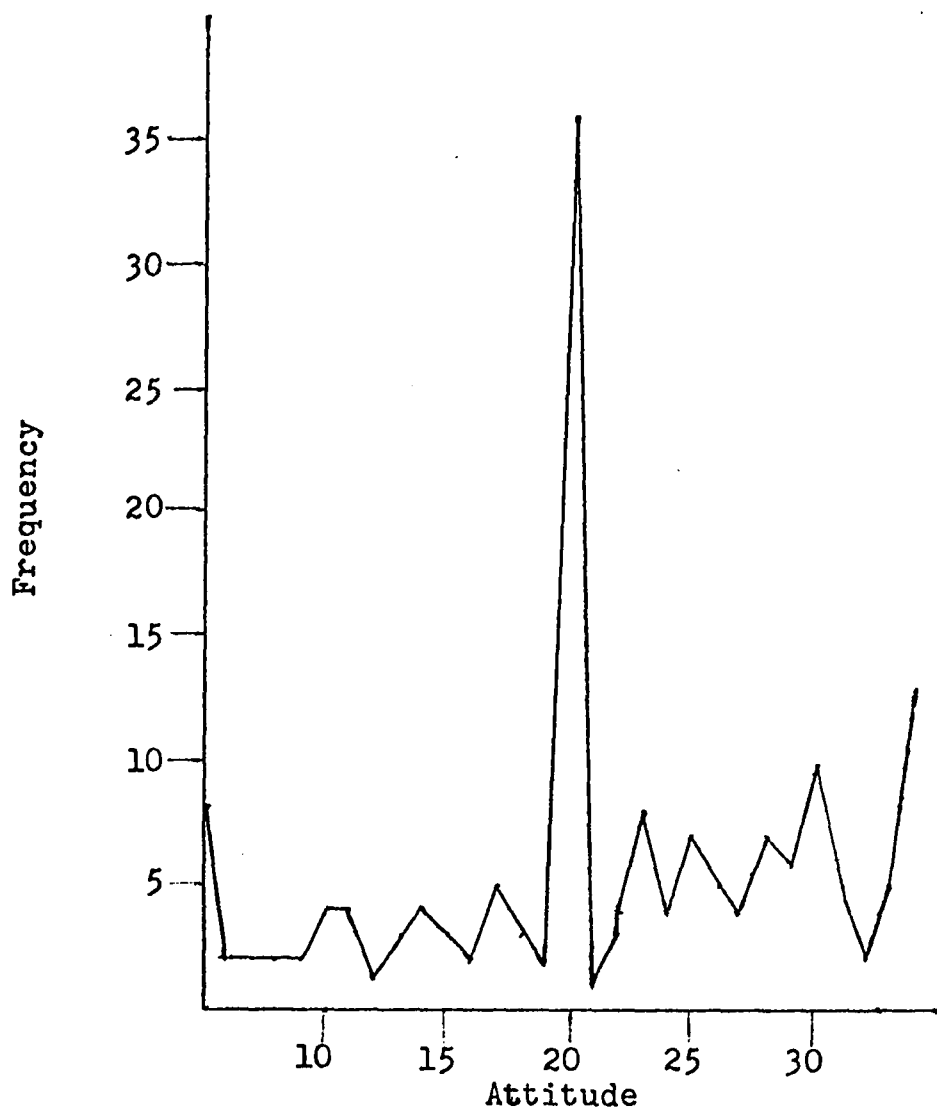


Figure 5
Frequency Distribution; Topic 5
Candidacy of Fred R. Harris

TABLE 1
Analysis of Variance
Closed Treatment: Test with Solomon Controls

Source	df	ss	ms	F
Between	3	30.5559	10.1853	
Test condition	1	.5228	.5228	.1810
Treatment condition	1	24.3887	24.3887	8.4445**
Test by treatment	1	5.6444	5.6444	1.9543
Within	57	164.6117	2.8881	
Total	60	195.1676		

**Significant at $p < .01$.

TABLE 2
Analysis of Variance
Open Treatment: Test with Solomon Controls

Source	df	ss	ms	F
Between	3	19.2769	6.4256	
Test condition	1	.1503	.1503	.0552
Treatment condition	1	11.7765	11.7765	4.3313*
Test by treatment	1	7.3501	7.3501	2.7033
Within	56	152.2584	2.7189	
Total	59	171.5353		

*Significant at $p < .05$

As a second manipulation check, an analysis of variance of the pretest attitude scores was made. This was done to be sure that the groups weren't significantly different in their pre-treatment attitudes towards the topic. The results of this analysis are reported in Table 3. There were no significant differences on these pretest scores.

TABLE 3
Analysis of Variance
Pretest Attitude Scores

Source	df	ss	ms	F
Between	3	23.1039	7.7013	
Dogmatism	1	.8264	.8264	.1749
Treatment	1	6.2046	6.2046	1.3134
Dogmatism by treatment	1	16.0729	16.0729	3.4023
Within	34	160.6160	4.7240	
Total	37	183.7199		

A check was made to see if the subjects would perceive the messages as being different in terms of strength and reasonableness. Item 20 of the comprehension test asked the subjects to respond to the overall tone of the message by selecting one of six alternatives relating to message "strength" and "reasonableness" (individually and in combinations).

Of 35 subjects receiving the closed treatment, 60% rated the message as strong, and 40% rated it as mild. Of the 34

subjects in the open treatment, 74% rated the message as strong, and only 26% rated it as mild.

Of the 35 subjects in the closed condition, 80% chose an alternative declaring the message reasonable, 11% said it was unreasonable, and nine % selected an alternative that did not contain the "reasonable" dimension. Of the 34 subjects in the open condition, 79% said it was reasonable, 15% said it was unreasonable, and six % selected an alternative which did not contain the "reasonable" dimension. In general, both messages were perceived by the subjects as equally reasonable, but they rated the open message as being somewhat stronger than the closed one.

Comprehension. The corrected-for-chance scores of the experimental subjects ($N = 68$) were subjected to a 2×2 analysis of variance. The analysis produced no significant results as can be seen in Table 4.

TABLE 4
Analysis of Variance
Comprehension

Source	df	ss	ms	F
Between	3	.9947	.3316	
Dogmatism	1	.8610	.8610	1.1696
Treatment	1	.1176	.1176	.1597
Dogmatism by treatment	1	.0161	.0161	.0218
Within	64	47.1104	.7361	
Total	67	48.1051		

The primary hypothesis was not supported since the treatment and dogmatism variables showed no significant interaction. The main effects hypothesis on levels of dogmatism also failed to achieve significance.

Credibility. The credibility scores ($N = 68$) were subjected to a 2 X 2 analysis of variance. The results are reported in Table 5. No significant differences were found.

TABLE 5
Analysis of Variance
Credibility

Source	df	ss	ms	F
Between	3	4.4366	1.4789	
Dogmatism	1	1.6972	1.6972	1.0137
Treatment	1	1.6366	1.6366	.9775
Dogmatism by treatment	3	1.1028	1.028	.6587
Within	64	107.1488	1.6742	
Total	67	111.5854		

The interaction hypothesis also was not supported and, as a consequence, the simple effect hypothesis was not tested.

Attitudes. The pretest-posttest attitude difference scores were subjected to a 2 X 2 analysis of variance. Table 6 reports the results of this analysis. There were no significant results for the three attitude hypotheses.

TABLE 6
Analysis of Variance
Attitude Change

Source	df	ss	ms	F
Between	3	28.1637	9.3879	
Dogmatism	1	.0047	.0047	.0011
Treatment	1	18.3273	18.3273	4.4088*
Dogmatism by treatment	1	9.8317	9.8317	2.3651
Within	34	141.3246	4.1569	
Total	37	169.4883		

*Significant at $p < .05$.

The only effect achieving significance came from the open-closed treatment main effect. The closing type modification condition created greater favorable change in the subject than did the open condition, although both were significant compared to the control groups.

Discussion

The rationale for this study suggested that open-minded subjects should be more sensitive to words representing degrees than closed-minded subjects. The subsequent expectation was that there would be significant differences between levels of dogmatism and message comprehension, source credibility, and attitude changes. In each case, however, the interaction hypothesis failed to achieve the predicted level of significance.

This failure appears to be due simply to the failure of dogmatism to function as a control variable. Any interaction hypothesis in essence is a prediction that a correlation exists between the treatment and control variable. A failure to find such a correlation would be consistent with the functional failure of a control variable. A calculation on dogmatism as a control for each dependent variable did not produce any significant correlations between the variables. This is strong evidence of the failure of dogmatism, at least as measured by the scales used here, to function as a control variable.

The findings here are consistent with Gerald Miller & Lobe (1967) and Gerald Miller & Baseheart (1969). They also failed to achieve significant interaction of treatment and the credibility ratings of open- and closed-minded receivers (they did find an interaction between opinionatedness and credibility of receivers).

This consistency, however, is limited somewhat by the differences in treatment and rationale between their studies and this one. Their studies used opinionated vs nonopinionated statements; this study used open-closed modification. Their studies had a "social reinforcement" rationale, while this one had a language-discrimination one.

The Mehrley & McCroskey (1970) study also has one relation relevant to the findings here. They failed to find any interaction between opinionated--nonopinionated statements

and credibility. The finding is again limited by the same differences noted relative to the Gerald Miller studies. In addition, Mehrley & McCroskey didn't distinguish between open- and closed-minded receivers.

Bowers (1963) also failed to achieve significance for his hypothesized interaction between language intensity and levels of social introversions on credibility. To the extent that introversion levels can be seen as related to open- and closed-mindedness, that is the extent the finding would be relevant here. It is at least not inconsistent with the finding here.

There is some reason to believe that an interaction hypothesis of language treatment and dogmatism might occur if attitude intensity were to become a third independent variable. Bettinghaus (1966) suggests that intensity of appeal, which as operationalized has some relation to the language conditions here, will interact differentially with the subject's previous intensity of attitude toward the message topic. The Mehrley & McCroskey (1970) study supports this principle. They found that subjects having initially neutral and intense attitudes, when exposed to different levels of "opinionatedness," did change their attitudes differentially.

All of this is by way of suggesting that the dogmatism variable may yet prove to be a useful distinction to make with language variables.

The treatment conditions produced significant attitude change but no significant differences in credibility scores. These results suggest that the scores on attitude change and source credibility would not be correlated. Calculations indicate this to be the case; no significant correlation was found between them.

The question of why the treatment produced differences in attitude change, but not in credibility remains to be answered.

The congruity principle (Osgood, Suci, & Tannenbaum, 1957) would suggest that the credibility and attitude scores should be correlated. In this case, however, it has been pointed out that no such correlation exists. An alternative explanation is that the source was perceived as an unimportant peer; and, that somehow the message failed to generate any strong feelings about him either way.

An interesting question remains. Why did the closed treatment produce significantly greater and more favorable attitude change? Did the closed treatment produce the stronger message? McGuire (1965) pointed out that there was a slight tendency for less intense messages to produce more attitude change than messages high in intensity. This is consistent with the findings here. The closed treatment was more effective, but the open treatment was rated as the stronger message. Hence, strength of the message per se apparently is not the reason for the differing effects.

A possible explanation for the treatment effects relates to the rationale for this study. Perhaps the closing type modification with its stress on inclusive-exclusive relationships may have interfered in some way with the discrimination processes causing the subjects to accept the gross generalizations rather uncritically. On the other hand, the open condition with its emphasis on degrees of relationships may have produced a mental state of uncertainty relative to the message arguments. This "uncertainty" then might explain the lesser amounts of attitude change.

Chapter IV

Summary and Suggestions for Further Study

This study hypothesized that open and closing type modifications would differentially affect the comprehension, credibility, and attitude scores of subjects rated as high and low dogmatic types. This expectation was based on the belief that open-minded subjects would be more sensitive to word structures expressive of "degrees" of relations than would closed-minded subjects. The results of this experiment did not support any of these interaction hypotheses.

The treatment effect on the attitude change variable was the only effect achieving significance. Both treatment conditions produced significant attitude changes. The closed treatment, however, produced significantly greater attitude changes than did the open treatment. The results of this study lend support to the findings of previous research that dogmatism is not a useful control variable.

This study and others raise several important issues. The primary one would seem to be the use of dogmatism as a control variable. None of the communication studies have achieved significant results using the dogmatism distinction. This could be due to many factors. Perhaps the dogmatism scales aren't really measuring open- and closed-mindedness. Another possibility is that the college student populations

are not representative of the kinds of closed-minded persons found in the general population of a given culture.

A second issue concerns dogmatism and comprehension. The results of the analysis on these variables here were in the predicted direction but were not significant. Since this study used a nonstandardized comprehension test, it is possible that the results were due more to the weaknesses of the instrument than to dogmatism.

The use of only one topic and one source in the experiment also may have influenced the results. The topic and message source may not have been important enough to the subjects to produce the expected interactions. Many other studies have demonstrated credibility effects by manipulating different sources. Varying the levels of credibility might then produce credibility effects with the open-closed treatment conditions as used in this study. The same reasoning would appear to apply to the manipulation of topics to be used in such experiments.

Another issue here concerns the treatment effect. The closed treatment with its inclusive-exclusive generalizations produced the greater attitude change. Intuitively, one would expect intelligent, open-minded subjects to notice the grossness of those generalizations and subsequently be less influenced by them. By the same reasoning, one would expect intelligent subjects to notice the careful qualification of

the conclusions in the open treatment condition, and subsequently be more impressed with the message and the source.

This reasoning was not supported. To the contrary, it appeared as though the word structures, which made the conclusions extremely rigid, somehow interfered with the discrimination processes; and that the open treatment functioned to create more doubt in the subject's belief about the topic. If this notion has any value to it, the possibility of inhibiting discrimination processes with nondiscriminating syntactical structures arises. Conversely, the possibility of creating doubt with the syntactically more precise description of objects and relations is equally interesting.

A final issue to be raised here concerns the relative effectiveness of the open-closed modification, the opinionated--nonopinionated, and the language intensity concepts. This study assumed that differences among them did exist, and the results appear to support the value of such a distinction.

The discussion of these issues suggests a number of recommendations for a continued program of research.

First, before concluding that the dogmatism distinction is of no value, it should be tested with a random sample from a larger population. Such studies are difficult and expensive, but they can be done. An alternative would be to run tests with populations which include only the extremely high or low dogmatic types. It would be quite valuable to communication

researchers to learn how members of the John Birch Society, Minutemen, Weathermen, Ku Klux Klan, etc., and others would respond to specified open-closed type word structures. A third and easier alternative would be to do the same thing but with college students. The generalizability of the results would be severely limited, but still useful to the communicator who may need to communicate with such select audiences.

Second, the treatment effect raises the need for at least three specific studies. A direct test concerning the relations between the encoding and decoding behaviors of subjects on the open-closing variables might prove valuable. A similar test with young children might provide insights concerning the best word structures to use in developing greater open-mindedness. A direct test of the open-closed concept against nonopinionated--opinionated language, and language intensity is also recommended.

A final recommendation here would be to replicate this study with additional variables. An extensive research effort is necessary to determine what personality variables are correlated with attitude change. Obviously, dogmatism provided no control. To obtain a more sophisticated theory of attitude change based on treatment effects, we must obtain that relevant descriptive data which builds theories. Collectively, the results of these proposals should tell us much about the effects of syntax in communication messages on different populations.

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A P P E N D I C E S

A P P E N D I X A

DESCRIPTIVE STATISTICS

DESCRIPTIVE STATISTICS

Distributions	High	Low	Mean	Variance	S.D.	Skew.
Topic Selection						
College Student Protests	35	5	21.04	47.14	6.86	-.41*
Church Involvement in Politics	35	5	17.11	47.47	6.88	.20
Candidacy of Richard Nixon	35	5	23.03	50.29	7.09	-.69*
Candidacy of Edmund Muskie	35	5	23.13	39.68	6.29	-.56*
Candidacy of Fred Harris	34	5	22.77	169.95	13.03	5.92*
Dogmatism Scores	99	22	64.73	47.14	12.96	.05
Comprehension Scores	16.34	-1	7.20	12.12	3.48	.03
Credibility Scores	35	12	24.37	28.15	5.31	.16
Pretest Attitude Scores	35	5	15.95	52.05	7.21	.55
Posttest Attitude Scores	35	5	20.03	53.22	7.29	.19

*Significant at $p < .05$ level

A P P E N D I X B

EXPERIMENTAL BOOKLETS

DOGMATISM PRETEST QUESTIONNAIRE

Do not write
in this space

Subject No. _____

Group No. _____

Project No. _____

Test 1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

University of Oklahoma
Norman, Oklahoma

PUBLIC OPINION SURVEY
(College-University)

Name _____ Age _____
(years)

Sex _____ Social Security or
Student Number _____

Year in College _____ Freshman
_____ Sophomore
_____ Junior
_____ Senior

College attending _____

Date _____

The University of Oklahoma's Department of Speech Communication Research Laboratory is conducting an exploratory study on personal and social opinions. This test booklet has several short blocks or groups of questions which are essential in the carrying out of this project.

Please remember there are no right or wrong answers. You are asked to give your frank and honest opinions at this time. The University administration is not sponsoring this survey, and neither the administration, the instructor, nor anyone not associated with the research laboratory will have usage of this information. We ask for your name, et. al., for identifying purposes only. Your anonymity is guaranteed. At a later date, a University of Oklahoma research staff member will return to answer any questions you might have about the project.

Please do not open this booklet until you have received appropriate instructions from the project leader. Thank you for your cooperation.

We are interested now in what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

+1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

Please write both the number and the sign in the margin left of each statement:

_____ The United States and Russia have just about nothing in common.

_____ It is often desirable to reserve judgement about what's going on until one has had a chance to hear the opinions of those one respects.

_____ Man on his own is a helpless and miserable creature.

_____ In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

_____ I'd like it if I could find someone who would tell me how to solve my personal problems.

_____ The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

____ While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.

____ The present is all too often full of unhappiness. It is only the future that counts.

Continue marking your answers in this manner:

+1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

____ To compromise with our political opponents is dangerous because it usually leads to betrayal of our own side.

____ It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

____ Most people just don't give a "damn" for others.

____ The main thing in life is for a person to want to do something important.

____ Most people just don't know what's good for them.

____ Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

____ In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

____ Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

____ It is better to be a dead hero than to be a live coward.

____ My blood boils whenever a person stubbornly refuses to admit he's wrong.

____ There are two kinds of people in this world: those who are for the truth and those who are against the truth.

____ Of all the different philosophies which exist in this world there is probably only one which is correct.

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in this space

PRETEST OF ATTITUDES
ON THE EXPERIMENTAL TOPIC

Subject No. ____

University of Oklahoma
Norman, Oklahoma

Group No. ____

Project No. ____

PUBLIC OPINION SURVEY
(College-University) #2

Test 1 ____

Name _____

2 ____

Sex ____ Social Security or
Student Number _____

3 ____

4 ____

Year in College ____ Freshman
____ Sophomore
____ Junior
____ Senior

The University of Oklahoma's Department of Speech Communication Research Laboratory is conducting another exploratory study on personal and social opinions. This test booklet has several short blocks or groups of questions which are essential in the carrying out of this project.

Please remember there are no right or wrong answers. You are asked to give your frank and honest opinions at this time. The University administration is not sponsoring this survey, and neither the administration, the instructor, nor anyone not associated with the research laboratory will have usage of this information. We ask for your name, et. al., for identifying purposes only. Your anonymity is guaranteed. At a later date, a University of Oklahoma research staff member will return to answer any questions you might have about the project.

Please do not open this booklet until you have received appropriate instructions from the project leader. Thank you for your cooperation.

On this page there are three semantic differentials, a type of attitude scale. Evaluate the concept at the top of each semantic differential in terms of the bi-polar adjectives below the concept. For example, if you were to evaluate the concept "liquor by the drink" in terms of its effect, and you think it is unhealthy, you would mark an X as below:

Liquor by the Drink

Good:_____:_____:_____:_____:_____:_____:_____: X : Bad

If you feel that it is quite healthy, of course your X would be placed nearer to the healthy pole.

The middle space should be considered "neutral." Check this space if you feel that neither adjective applies to the concept, or if you feel both adjectives apply equally to the concept.

Please answer all items and make only one check mark on each scale.

U. S. Army's trials of Vietnam tragedies

Good:_____:_____:_____:_____:_____:_____:_____: Bad

Foolish:_____:_____:_____:_____:_____:_____:_____: Wise

Beneficial:_____:_____:_____:_____:_____:_____:_____: Harmful

Unfair:_____:_____:_____:_____:_____:_____:_____: Fair

Worthless:_____:_____:_____:_____:_____:_____:_____: Valuable

Church Involvement in Politics

Good:_____:_____:_____:_____:_____:_____:_____: Bad

Foolish:_____:_____:_____:_____:_____:_____:_____: Wise

Beneficial:_____:_____:_____:_____:_____:_____:_____: Harmful

Unfair:_____:_____:_____:_____:_____:_____:_____: Fair

Worthless:_____:_____:_____:_____:_____:_____:_____: Valuable

College Student Protests

Good:_____:_____:_____:_____:_____:_____:_____: Bad

Foolish:_____:_____:_____:_____:_____:_____:_____: Wise

Beneficial:_____:_____:_____:_____:_____:_____:_____: Harmful

Unfair:_____:_____:_____:_____:_____:_____:_____: Fair

Worthless:_____:_____:_____:_____:_____:_____:_____: Valuable

MESSAGE TREATMENTS AND POSTTEST MEASURES

Do not write
in this space

Subject No. _____

Test 1 _____ PUBLIC OPINION SURVEY (college) #3

2 _____ Name _____

3 _____ Student # _____

4 _____

5 _____

6 _____

The University of Oklahoma's Department of Speech Communication Research Laboratory is conducting another study on personal and social opinions. This test booklet has several short blocks or groups of questions which are essential in the carrying out of this project.

Please remember there are no right or wrong answers. You are asked to give your frank and honest opinions at this time. Again, the University administration is not sponsoring this survey, and neither the administration, the instructor, nor anyone not associated with the research laboratory will have usage of this information.

Next week, a University of Oklahoma research staff member will return to answer any questions you might have about the project.

Please do not open this booklet until you have received appropriate instructions from the project leader. Thanks very much for your help.

CLOSED MODIFICATION MESSAGE

On this and the following pages is a statement prepared as an introduction to a forum group gathered to discuss the church in modern society. It was prepared and presented by an OU student majoring in philosophy.

It has been observed that a church is more than buildings, ministers, deacons, and congregations. A church like that which Jesus Christ spoke of is a living, breathing spirit of love, hope, and charity. Such a church would be alive to the moral quandaries, the personal and political problems of modern man.

There are no differences now between moral and political problems. For example, Vietnam is a war whose origin was completely political. It was the complete and absolute refusal of the United States to allow the unifying elections--which had been agreed to in the 1954 Geneva Agreements--that undoubtedly precipitated our military involvement there. Everyone who is knowledgeable in history now, without the slightest inkling of reservation, believes that the war is a tragic mistake. The only remaining argument is over what is the better way of getting out.

Vietnam is not exclusively a political problem; it is just as fully a moral one as well. Bright, young men wrestle daily with their consciences over the moral dilemma of how to be loyal to one's country and yet satisfy one's belief against killing in an undeniably immoral war.

What have the churches done for these men faced with great moral crises? Officially, they have done absolutely nothing. Not a single church or council of churches has openly supported or denounced the war. Not one has adopted an official policy of advising young men either to refuse to serve or, to serve with God's blessing.

Our churches preach love of fellowman, unselfishness, tolerance, etc. In contrast to what is taught, the young of our nation see the political system repressing the rights of minority groups; see that the market place is dominated completely by greed; see that material wealth--not love, tolerance, unselfishness, or humanity--is the basis of power in government. They see a system which pays in the billions to farmers for not producing or, to buy and store at inflated prices what is produced while money to feed impoverished families, to fight pollution, to aid medical research, and to help education is so cautiously given that it is never enough for any single one of our needs. If someone must be paid for doing nothing, the young wonder why we can't spend as lavishly on other more serious problems.

Please turn the page and continue reading.

The young face an environment threatened by pollution created exclusively by businessmen who always choose profit over pollution research. They see a government forbid television advertising about smoking, due to the Surgeon General's studies proving that smoking is without doubt harmful to health. However, an examination of the U. S. Agriculture Department's books, reveals that the same government spends billions every year to buy tobacco at an inflated price and sells it at a loss, to companies who sell it to people who get cancer from smoking it.

Our young people also are fully aware that the CIA, FBI, and state and local police keep files on and tap the phones of individuals and organizations that somehow used their freedom of speech to express opinions not consistent with what our government thinks are the right opinions to have.

All of these problems are political, and all are moral ones as well. The politicians forge ahead, meeting the problems--always with unlimited corruption; but the official church is completely silent. Churches in steel communities especially don't preach against pollution; churches in tobacco farm areas especially don't preach against tobacco; and military chaplains especially don't preach against Vietnam.

Preaching worthless verbal platitudes from the pulpit, but ignoring the real moral problems and needs of the people, the church has gained property and money, but in the process has definitely removed itself from any position of moral leadership. The church today is only a shell of ritualistic formalities; true moral spirit has been unquestionably traded in every case for expensive buildings and golden shams--the kind of ostentatiousness which enraged Jesus Christ about the established church of his day.

It is time for the church to break the shell of hypocrisy. It is time for it to get involved with what is real. It is time for it to develop a courageous moral leadership. So long as the church refuses to take positions on the great political-moral problems of the people, the church will be a useless spiritual tomb.

I am not suggesting that the churches should organize into political parties, or in any way violate the principle of church-state separation. However, since the moral concerns of the church and the political problems of the state all converge and become one with each other, the church cannot default on its responsibility for moral leadership simply because the problem is also political. It would be fully as irrational for the government to withdraw from a problem on the similarly absurd grounds that it was also a moral problem.

Please turn the page and continue reading.

Neither the church nor the state can use such flimsy excuses to escape responsibility. Both must make policies, give advice and support to individuals and groups. It is only the totally ignorant who believe that the church-state separation principle means the two must have no connection with each other. The church and state have such varied relations as religious practices in government meetings, financial support for education to, "In God We Trust" printed on our money.

The intelligent person fully realizes that the separation principle was a reaction to the domination of the British government for many years by the Church of England. He is certainly aware of the fact that church and state do no now have many relations in common. Having the church officially speak out, officially take positions on moral issues is certainly not the same thing as church control of state or, of state control of church.

All churches which refuse to speak out on the moral problems of modern man are doomed once and for all to be little more than a shining robot of morality, devoid of spirit, of feeling, of humanity. The real churches, the Christ-like churches, will not be afraid of the great moral problems of our day. Like Christ, they will speak out against sham, injustice, and man's continual inhumanity to man.

Please turn the page and continue reading.

OPEN MODIFICATION MESSAGE

On this and the following pages is a statement prepared as an introduction to a forum group gathered to discuss the church in modern society. It was prepared and presented by an OU student majoring in philosophy.

It has been observed that a church is more than buildings, ministers, deacons, and congregations. A church like that which Jesus Christ spoke of is a living, breathing spirit of love, hope, and charity. Such a church would be alive to the moral quandaries, the personal and political problems of modern man.

There are fewer differences now between moral and political problems. For example, Vietnam is a war whose origin was somewhat political. To some extent, it was the temporary refusal of the United States to allow the unifying elections--which had been agreed to in the 1954 Geneva Agreements--that partially precipitated our military involvement there. Many who are knowledgeable in history, now to one degree or another believe that the war is a tragic mistake. The major remaining argument is over what is the better way of getting out.

Vietnam is not exclusively a political problem; it is for the most part a moral one as well. Bright, young men wrestle daily with their consciences over the moral dilemma of how to be loyal to one's country and yet satisfy one's belief against killing in a war of at least questionable morality.

What have the churches done for these men faced with great moral crises? Officially they have done very little. Not many churches or councils of churches have openly supported or denounced the war. Not many have adopted an official policy of advising young men either to refuse to serve or, to serve with God's blessing.

Our churches preach love of fellowman, unselfishness, tolerance, etc. In contrast to what is taught, the young of our nation see the political system repressing the rights of minority groups; see that the market place is somewhat controlled by greed; see that material wealth--not love, tolerance, unselfishness or humanity--is part of the basis of power in government. They see a system which pays in the billions to farmers for not producing, or to buy and store at inflated prices what is produced, while money to feed impoverished families, to fight pollution, to aid medical research, and to help education is so cautiously given that it is often considerably insufficient for most of our needs. If someone must be paid for doing nothing, the young wonder why we can't spend as lavishly on other more serious problems.

Please turn the page and continue reading.

The young face an environment threatened by pollution created partially by businessmen who sometimes choose profit over pollution research. They see a government forbid television advertising about smoking, due to the Surgeon General's studies proving that smoking is frequently harmful to health. However, any examination of the U. S. Agriculture Department's books, reveals that the same government spends billions every year to buy tobacco at an inflated price and sells it at a loss, to companies who sell it to people who get cancer from smoking it.

Our young people also suspect that the CIA, FBI, and state and local police keep files on and tap the phones of individuals and organizations that somehow used their freedom of speech to express opinions not consistent with what our government thinks are the right opinions to have.

Many of these problems are political, and many are moral ones as well. The politicians forge ahead, meeting the problems--often with some corruption; but the official church is usually silent. Churches in steel communities don't generally preach against pollution; churches in tobacco farm areas don't generally preach against tobacco; and military chaplains don't generally preach against Vietnam.

Preaching dubious verbal platitudes from the pulpit, but ignoring the real moral problems and needs of the people, the church has gained property and money, but in the process has to a degree removed itself from any significant position of moral leadership. The church today is often a shell of ritualistic formalities; true moral spirit has often been traded for expensive buildings and golden shams--the kind of ostentatiousness which enraged Jesus Christ about the established church of His day.

It is time for the church to break the shell of hypocrisy. It is time for it to get involved with what is real. It is time for it to develop a courageous moral leadership. So long as the church refuses to take positions on the great political-moral problems of the people, the church will be a useless spiritual tomb.

I am not suggesting that the churches should organize into political parties, or in any way violate the principle of church-state separation. However, since the moral concerns of the church and the political problems of the state increasingly converge and become one with each other, the church cannot default on its responsibility for moral leadership simply because the problem is also political. It would be quite as irrational for the government to withdraw from a problem on the similarly absurd grounds that it was also a moral problem.

Please turn the page and continue reading.

Neither the church nor the state can use such flimsy excuses to escape responsibility. Both must make policies, give advice and support to individuals and groups. Just a few of the more ignorant ones believe that the church-state separation principle means the two must have no connection with each other. The church and state have such varied relations as religious practices in government meetings, financial support for education to "In God We Trust" printed on our money.

Generally, the intelligent person realizes that the separation principle was a reaction to the domination of the British government for many years by the Church of England. He is usually aware of the fact that church and state do have many relations in common. Having the church officially speak out, officially take positions on moral issues, does not even approximate the same thing as church control of state, or of state control of church.

Most churches which refuse to speak out on the moral problems of modern man are for the most part doomed to be little more than a shining robot of morality, devoid of spirit, of feeling, of humanity. The real churches, the Christ-like churches will not be afraid of the great moral problems of our day. Like Christ, they will speak out against sham, injustice, and man's frequent inhumanity to man.

Turn to next page

In this part there are six semantic differentials, a type of attitude scale. Evaluate the concept at the top of each semantic differential in terms of the bi-polar adjectives below the concept. For example, if you were to evaluate the concept "Liquor by the Drink" and you think it is unhealthy, you would mark an X as below:

Liquor by the Drink

Good:____:____:____:____:____: X : Bad

If you feel that it is quite healthy, of course your X would be placed nearer to the Good pole.

The middle space should be considered "neutral." Check this space if you feel that neither adjective applies to the concept, or if you feel both adjectives apply equally to the concept.

Please answer all items and make only one check mark on each scale.

Conscientious Objectors

Good:____:____:____:____:____:____:____:____: Bad

Unfriendly:____:____:____:____:____:____:____:____: Friendly

Reasonable:____:____:____:____:____:____:____:____: Unreasonable

Inexpert:____:____:____:____:____:____:____:____: Expert

Intolerant:____:____:____:____:____:____:____:____: Tolerant

Source of the message printed on the previous two pages(Phil.Student)

Good:____:____:____:____:____:____:____:____: Bad

Unfriendly:____:____:____:____:____:____:____:____: Unreasonable

Inexpert:____:____:____:____:____:____:____:____: Expert

Intolerant:____:____:____:____:____:____:____:____: Tolerant

Please continue on next page

U. S. Involvement in Vietnam

Good: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Bad
 Foolish: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Wise
 Beneficial: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Harmful
 Unfair: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Fair
 Worthless: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Valuable

U. S. Position on Tobacco and Advertising

Good: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Bad
 Foolish: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Wise
 Beneficial: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Harmful
 Unfair: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Fair
 Worthless: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Valuable

Governmental Snooping

Good: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Bad
 Foolish: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Wise
 Beneficial: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Harmful
 Unfair: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Fair
 Worthless: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Valuable

Church Involvement in Politics

Good: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Bad
 Foolish: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Wise
 Beneficial: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Harmful
 Unfair: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Fair
 Worthless: _____ : _____ : _____ : _____ : _____ : _____ : _____ : Valuable

Please turn to next page

Following is a brief test over the material you have just read. This test is not in any way related to your work in this course. Your instructor will not see the results. The tests will be scored by a laboratory assistant who will know you only by a number and not by your name.

Please read and answer each question carefully, but work at a steady pace. If you are not sure of the answer, circle the one which seems right.

Please circle only one alternative per question.

Please do not turn back to see the message again.

1. The differences between moral and political problems were said to be:
 - a. greater than ever
 - b. fewer than ever
 - c. none at all now
 - d. most difficult
2. The U. S. Military involvement in Vietnam was said to be:
 - a. Partially caused by our refusal to hold unifying election.
 - b. Caused by our desire to help keep South Vietnam free.
 - c. Mostly caused by our desire to stop Communism.
 - d. Completely caused by our refusal to hold unifying elections.
3. The reason given for the U. S. refusal to allow the unifying elections to be held was:
 - a. It wasn't possible to have truly free elections.
 - b. South Vietnam refused to consider elections with Communists' candidates running.
 - c. Ho Chi Minh, leader of the North, would have won the vote and the country would have gone under Communist control.
 - d. None of these were given in the message.
4. The U. S. position on the proposal for having unifying elections was said to be:
 - a. firm refusal
 - b. a temporary refusal
 - c. an absolute refusal
 - d. none of these

Please continue on next page

5. The author stated that Vietnam was a moral problem:
 - a. for most people
 - b. for all people
 - c. for all institutions
 - d. all of these
6. According to the author, the Vietnam War is:
 - a. a tragic mistake
 - b. of questionable morality
 - c. totally immoral
 - d. a and b above
 - e. a and c above
7. The basis of powers in our country was said to be:
 - a. material wealth
 - b. love
 - c. prestige
 - d. all of these
8. Money for education, pollution, and research was said to be given:
 - a. freely
 - b. carefully
 - c. cautiously
 - d. grudgingly
9. The author said that the government pays billions to farmers for:
 - a. products at inflated prices
 - b. producing nothing
 - c. a and b above
 - d. neither a and b
10. Pollution was said to be
 - a. caused entirely by business
 - b. caused to a very large extent by business
 - c. caused to some extent by business
 - d. caused by both business and government
11. The statement/message focused on the problems faced by:
 - a. American citizens in general
 - b. Middle-class Americans
 - c. Young Americans
 - d. All of these

Please continue on next page.

12. The author stated that the Surgeon-General's studies showed that:
- a. Smoking was correlated with lung cancer
 - b. Smoking is often harmful to health
 - c. Smoking is undoubtedly harmful to health
 - d. Smoking is positively a cause of cancer.
13. The official church was said to be:
- a. Sometimes silent on the major problems
 - b. Usually silent on the major problems
 - c. Nearly always silent on the major problems
 - d. Usually speaks out on the major problems
14. One important reason suggested for the silence of the official church on major problems is:
- a. that some political problems aren't relevant to church life
 - b. that many churches have congregations whose livelihood in one way or another depends on the industry-caused problems
 - c. They don't wish to appear radical
 - d. None of these
15. The church was said:
- a. to be increasingly interested in political problems
 - b. to have lost some of its moral leadership
 - c. to have given up nearly all of its moral leadership
 - d. to have genuine concern for all mankind
16. The author suggested that churches should:
- a. organize political parties
 - b. send official lobbyists to the power centers of government
 - c. officially take stands on political-moral problems
 - d. confine its advice on political-moral problems to private cases.
17. The author suggested that churches should avoid positions on issues when:
- a. the problem is mostly political
 - b. the solution is against the consensus of the community
 - c. the government would be unnecessarily embarrassed
 - d. none of these

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18. The church and state have had:
- a. hardly any relations in common
 - b. many relations in common
 - c. no common relations
 - d. none of these
19. Church-state separation means that:
- a. the church must not officially speak out on any major political problem
 - b. the state must not involve itself with largely moral problems
 - c. the church should not control the state; and the state must not control the church
 - d. all of these.
20. The overall tone of the message was:
- a. mild
 - b. strong
 - c. mild and reasonable
 - d. mild and unreasonable
 - e. strong and reasonable
 - f. strong and unreasonable