

CONSTRUCTION OF A TEST FOR
STEREOTYPY IN THINKING

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PREFACE

This thesis deals with the problem of sterotypy in thinking and, whether, if it exists, it can be measured by pencil and paper test using the fold-over variation of the Likert technique. The primary aim of this study is the investigation of the construction of such a test.

Indebtedness is acknowledged to the members of the Department of Psychology of the Oklahoma A. and M. College who generously gave of their time and skill to aid and advise the writer in the construction of this test. Particular thanks are due to Mrs. Hanna Warren who assisted in the typing of the schedules and to Doctors A. M. Anikeeff, W. M. Gustafson, and R. E. Sommerfeld who served on the thesis committee. Dr. S. L. Reed contributed many valuable suggestions for the development of the philosophical background of the study and, with the staff of the statistics laboratory, Oklahoma A. and M. College, encouraged the writer with helpful suggestions.

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INTRODUCTION

The study of stereotypy in thinking involves prior consideration of the processes of concept formation, generalization in thinking, and the processes of abstracting. A good review of historical points of view on these processes can be found in the introduction of Fisher's (20) paper.

It is neither necessary nor desirable to replace the material included in the non-experimental history of the problem. However, Fisher's study was one which depended on the introspectionist as the instrument with concomitant emphasis on that portion of philosophical investigation which had to do with such questions as the mental content that is present when a universal concept or a general or abstract idea is thought, while the present study does not depend on introspection and is more concerned with the uses to which general concepts are put; consequently, certain additions to the studies Fisher considered might be useful.

Plato (55) maintained a consistent approach to the problem of the general concept. He implied that the word partook of the nature of the object and that the object shared some quality with the name. Going beyond names, or classes, to propositions, Plato presents the point of view in a dialogue between Theatetus and the stranger that a statement must be about something (have a subject) which

its or exists. Finally, he demonstrates that knowledge is imparted through three instruments, (1) the name, (2) the definition, and (3) the image; further, there is (4) the knowledge itself, and finally there is (5) the thing itself which is known and truly exists.

Consistently it is found that Plato envisions a world of Ideas of which observed events are only an imperfect representation. This entails a value judgement that the Idea is "better" than its real projection into the observed world and that the more truly real is the knowledge of the event held in the mind of the knower. Reactions to the ideal represented in the mind, then, would be more appropriate than reactions to the "less good" projection observed as an event or thing by the senses.

Aristotle (5) differed with Plato in regard to the value of names. The point of view is taken that nouns are names which have been conventionally assigned to things which do not necessarily partake of the nature of the thing symbolized. Here the necessity of classifying an object belongs in the province of man, and the object may occur without the name. There is no inherent rightness or rightness in any appellation, only a convenience in communicating.

Aristotle considered that objects had (and he did not qualify this with regard to the possibility of shifting names of reference) one essential attribute to be consid-

ed in propositions in which the object was to be considered. Though the object might have other attributes, these other attributes were what he termed accidental attributes and "should not" be considered in propositions concerned with the essential attribute of the object considered.

In the discussion in which this point of view is presented, Aristotle expressed the view that it would be well to be rid of qualifications of statements about objects.

William James (33), in the Principles of Psychology, moved to a position even more distant from the Greek thinkers when he pronounced, on the Stream of Thought: A permanently existing 'idea' or 'Vorstellung' which makes its appearance before the footlights of consciousness at periodic intervals is as mythological an entity as the Jack of Spades."

James shows how a sensory experience can be sharpened conceptually through the use of naming as a tool when he states:

...the difference (between two terms) is always concreted and made to seem more substantial by recognizing the terms. I went out for instance the other day and found that the snow just fallen had a very odd look, different from the common appearance of snow. I presently called it a "micaceous" look; and it seemed to me as if, the moment I did so, the difference grew more distinct and fixed than it was before.

This is a far cry from the almost reverential treatment words received at the hands of Plato. The present

point of view (and the one from which this paper stems) is, stated by Thorndike (69):

Meanings are in persons' minds, not in words, and when we say that a word has or possesses such and such meanings, we are really saying that it has evoked, or caused, those meanings.

With Thorndike and James the experimental approach to concept-formation, abstracting, and generalizing is entered.

One of the best reviews of modern studies in this field is to be found in W. Edgar Vinacke's (70) article, The Investigation of Concept Formation. In this article, Vinacke incorporates the definition of "concept" through the following criteria:

1. "Concepts are not direct sensory data but something resulting from the elaboration, combination, etc., thereof..."
2. "...concepts depend on the previous experience of the organism."
3. "Concepts are responses which tie together, or link, or combine discrete sensory experiences..."

4.

It may be inferred that such ties or links are symbolic in nature; that is, the same response stands for a variety of data. In the human organism this response is usually a word, and the word ties together different experiences with the same object, experiences with different objects somehow related to each other, the emotional responses aroused in these experiences, etc.

5.

On the side of the internal processes of the organism, concepts represent selective factors. An

external stimulus arouses a symbolic response, on the one hand, or a symbolic response guides perceptual response, whichever comes first.

(An example of symbolic response guiding perceptual sponse is that of James "micaceous" snow, detailed above.)

Vinacke (70) notes the distinction Hayakawa makes between extensionality and intensionality in concepts.

Reed's (57) findings of consistent and inconsistent concept formation in subjects is considered by Vinacke as concept formation regardless of the "objectively correct" or incorrect judgement given in the experimental design to the concept.

Vinacke notes, too, that:

...A symbolic response does not have a fixed, permanent meaning but represents a momentary focusing of experience upon a particular stimulus situation, combining intensional as well as extensional data, inconsistent as well as consistent relationships, and placing the emphasis in a context of greater or lesser inclusiveness.

Vinacke finds that "The two most clearly stated theories of concept formation depend upon the distinction between abstraction and generalization."

First, there is the "composite photograph theory." Woodworth (73) is quoted as saying, "...the features common to a class of objects summate their impressions on the observer, who thus gradually acquires a picture in which the common features stand out strongly while the variable characteristics are washed out." Smoke's (63) suggestion is cited, that a concept is formed, not of the summation

of "...specific components common to a series of stimulus patterns, but relationships between them."

Second, Vinacke quotes Woodworth (73) again: "The concept is supposed to originate as a hypothesis which o proceeds to test by trying it on fresh specimens of the class."

Contrasting the experiments of Hull and Smoke, it is found that the greatest explicit difference may be seen by contrasting the following positions:

Hull (32) states:

All of the individual experiences which require a given reaction, must contain certain characteristics which are at the same time common to all members of the group requiring this reaction and which are NOT found in any members of the groups requiring different reactions.

Smoke (63) defines concept formation as "...the process whereby an organism develops a symbolic response (usually but not necessarily, linguistic) which is made to the members of a class of stimulus patterns but not to other stimuli."

The design of the cards used by Hull and Smoke would influence the results of the experimental results. Hull's cards were designed with common elements present; Smoke's were designed so that concepts could be formed from relationships which were designed into certain of the cards. Concept formation was found to be present in both cases.

An important point which Smoke emphasizes is that concept formation involves grouping, that individuals

appear to envisage certain stimulus patterns as belonging to a group to which any given stimulus pattern may or may not belong.

From such an observation, it might be thought that concept formation might be a process of categorizing events or experiences into some subjectively meaningful grouping (Vinacke's third criterion). If this is the case, it could be postulated that there would be "hard" and "easy" concepts, that a "hard" one would represent a difficult grouping or abstracting task and that an "easy" one would be more simple. That this is the case is attested by experiments performed by Reed (57) and Heidbreder (29).

Reed states:

Complexity of stimuli has important effects on the kind and distribution of errors. Introducing confusing or conflicting concepts leads to the formation of concepts with double and multiple meanings. As the complexity of the stimuli is increased, there is a definite trend to shift from logical to illogical learning, or to base concepts on such factors as primacy, frequency, and sensory similarity of contiguous stimuli. A direct relationship was found between the frequency of the occurrence of concepts and the instances supporting them.

Heidbreder, et al. (29), found: "...concepts are more or less readily attainable by human beings as their attainment requires a slighter or greater departure from the kind of response involved in perceiving a concrete object."

Goldstein and Scheerer (26), from a more clinical point of view, discussed concept formation as a process which occurred in two levels, as the following extracts show:

The abstract and concrete behaviors are dependent upon two corresponding attitudes which are psychologically so basic that one may speak of them almost as levels.

And,

The abstract and the concrete attitudes are not acquired mental sets or habits of an individual, or special insoluble aptitudes, such as memory, attention, etc. They are rather capacity levels of the total personality...

Specifically:

The concrete attitude is realistic. It does not imply conscious activity in the sense of reasoning, awareness or a self-account of one's doing. We surrender to experiences of an unreflective character: we are confined to the immediate apprehension of the given thing or situation in its particular uniqueness. This apprehension may be by sense or percept, but is never mediated by discursive reasoning. Our thinking and acting are directed by the immediate claims which one particular aspect of the object or of the out-world situation makes.

While on the other hand:

The abstract attitude embraces more than merely the 'real' stimulus in its scope. It implies conscious activity in the sense of reasoning, awareness and self-account of one's doing. We transcend the immediately given situation, the specific aspect or sense impression: we abstract common from particular properties; we are oriented in our action by a rather conceptual viewpoint, be it a category, a class, or a general meaning under which the particular object before us falls. We detach ourselves from the given impression, and the individual thing represents to us an accidental example or representation of a category.

In the Goldstein and Scheerer article, it is noted that speech can be qualitatively changed to a high degree in a patient with a brain disease. For this reason the concrete use of general concepts to a greater degree than average enables the individual to appear to produce a

verbal performance not actually within his capacity.

Further comments concerning this are:

...one may overtly utter general names without having the meaning of the conceptional generality implied in these words.

and,

...speech in general presents a certain ambiguity; an ambiguity as to the concrete or conceptional meaning of words. This ambiguity exists already in the normal person's verbalization and is accentuated in abnormal cases.

G. A. Miller (48) considers the abstract and concrete levels of concept formation in the following manner:

Generalization is the rule rather than the exception. When an organism learns to make a particular response in the presence of a particular stimulus, this learning generalizes to a wide range of other stimuli. A child who learns to say 'kitty' for one four-legged furry animal generalizes this response to mice, rats, dogs, etc. Special training is required to make the child discriminate more accurately; reinforcement of the response to a narrow range of stimuli is accompanied by extinction of the response to stimuli outside that range.

Nothing in the world is reacted to as special or different from anything else until reinforcement depends on its differentiation.

An abstraction is a response to a property isolated from its context,...

Osgood (52) considers a concept as a response, too, but so expresses it that a degree of relatedness to the concrete examples may be seen when he defines it, in the following way:

A pattern of stimulation which is not the object is a sign of the object if it evokes in the organism a mediating reaction, this (a) being some fractional part of the total behavior elicited by the object and

(b) producing distinctive self-stimulation that mediates responses which would not occur without the previous association of non-object and object pattern of stimulation.

It is to be noted that this definition does not entail any awareness of mediating reactions, nor does it indicate that the individual respond in any way specifically. Such a definition, then, does not preclude approaching problems in concept formation utilizing the formulations of Goldstein and Scheerer (26) or those of Miller (48).

Wendell Johnson (34) indicates the everyday application of generalization in his popular definition and description of the process:

Now, a generalization is a statement that asserts that different things are somehow similar, or even identical, and so are to be reacted to or treated alike, or nearly so. Thus not only do we say that all patients who exhibit such and such symptoms are alike in that they have appendicitis, but we also go on to remove the appendixes of all of them. Certain religious sects not only hold that all babies are born 'impure' or 'in sin', etc., but also proceed to submerge them all in water, or sprinkle them with it, or in some fashion baptize them, all of them. In some countries not only are all persons with certain pedigrees classified together as Negroes, but they are also all deprived of various privileges and rights. The fact that not all appendicitis patients nor all babies nor all Negroes are alike, even though we say they are, is something that we do not seem able to take into account very easily. The similarities, however slight, impress us more than do the differences, however great, once we have stressed the similarities by naming them and by generalizing in terms of the name we have given them.

Johnson describes the process of identification in such a way that it might be considered to be an operational definition of the abstract attitude studied by Goldstein

nd Scheerer (26) in the paper previously mentioned.

ohnson's description follows:

Now, it is to be clearly recognized that in our still fundamentally prescientific culture we tend strongly to deal with individuals and things in terms of classes, categories, or types. The very structure of our language largely insures this, without our having to attend to it. That structure, patterned as it is on the A-is-A premise, implies that reality consists of types of things, each type having its distinguishing attributes or features. Thus, we speak of our language as having a subject-predicate structure. That is to say, it is designed to classify objects or actions according to their supposedly intrinsic and absolute qualities. It performs this function quite automatically. Almost any common noun, for example, denotes, when used uncritically, not a particular or unique thing, but a whole class. 'This is a book,' represents the more nearly complete statement: 'This particular unique object belongs to that class of objects we call book and is to be reacted to accordingly, as we react to other objects in this class.' It is a statement of classification serving to assign a particular thing to a given category or class of things. Then, as we have learned to react to that category, so we react to the particular thing. In such a sense, any statement of the form, 'This is a book,' is an expression of identification.

Continuing the discussion of "identification,"

ohnson illustrates the process which Goldstein and

cheerer would term the abstract attitude manifested to-

ward a concrete event:

...If we do not know that a word names a whole class of things and implies identification of them, if we do not evaluate the difference between words and objects, if we do not clearly differentiate inferences from descriptions, we tend to behave the way animals do, because they too are ignorant of such matters. Under such conditions, we react to lower-level abstracts, to individual persons, objects, or events, as though they were the same as higher-level abstracts, classes, categories, generalizations. We react to the word education, for example, as though it were the same--as actual education; and, so, as

though education were the same as education. There actually are people who are in favor of 'education,' and others who are opposed to 'education'! Such people have conditioned responses on a high level of abstraction."

Lippman (43) describes a process, on the other hand, which emphasizes the ambiguity noted in speech (the "ambiguity as to the concrete or conceptual meaning of words") when he says, "We do not so much see this man or that sunset; rather we notice that the thing is man or sunset, and when we see chiefly what our mind is already full of on those subjects." These are illustrations of the way the pictures individuals carry about in their heads of objects and people may obstruct their recognition of present events. Mr. Lippman terms these pictures stereotypes.

Vinacke (71) in his extensive review of the literature on stereotypes gives the following definition of stereotyping:

In functional terms stereotyping may be defined as 'the tendency to attribute generalized and simplified characteristics to groups of people in the form of verbal labels.' The stereotype itself is usually described as a system of such verbal labels. If, however, they may properly be regarded as concepts, then the verbal labels represent only a part of the conceptual system, since it would be necessary to allow for intensional, hierarchical, and other aspects.

Hayakawa (28) presents a different point of view when he writes: "What are stereotypes anyway? They are, it seems to me, traditional and familiar symbol clusters, expressing a more or less complex idea in a convenient way."

Such a definition is more specific than Vinacke's,

a "stereotype" would be limited to the symbolic aspect of mental organization) and places the roots of particular stereotypes in the individual's culture. Hayakawa spells this out specifically:

Every culture is rich with them....Any individual who does not know the stereotypes of thought and feeling...may be said to be a stranger to our culture, for a culture is the accumulation and passing on of traditional nonsense as well as of traditional wisdom.

It is with the social aspect of stereotyping that Tager (67) is concerned in his discussion on Institutionalized Complexes:

Since our verbal symbols are institutionalized, being a part of the whole social structure in which the child is reared, they lend themselves readily to the formation of affective responses which are generalized to cover a wide range of situations having a certain common feature.

A simple illustration is the word 'home.' About this word numberless affective conditionings, most of them pleasant, have centered. A large number of them have been deliberately or unintentionally implanted as the result of our traditions, the social approval which attaches to the belief in the 'sanctity of the home,' etc. Punishment and unpleasantness are associated with disregard for the home.

Perhaps a better illustration would be 'communist.' To this term most Americans react with dislike, because of multiple conditionings against it, although unable to define it. The emotional response is unthinking and mechanical, i.e., stereotyped.

When the concept of the institutionalized stereotype became current in psychological parlance, and the process of individual stereotyping behavior was recognized, many studies of individual and social behavior were begun in order to answer some of the questions which this concept

rought to the fore.

Among these studies are Katz' and Braly's (35,36) work on prejudice and stereotyping and stereotyping among college students. Related to this area is Schoenfeld's (60) work, that of Seago (61), Bayton (9), and Meenes (45).

Studies of "racial distance," such as those of Logardus (13,14), Meltzer (46), and Monjar (49), depend on stereotyping processes on the part of respondents.

"Halo" effects in judgements are sometimes the results of stereotyping processes. Lewis (41) found a relationship between acceptance of a slogan and prestige-value of the person to whom the slogan was attributed, while in esthetics, Saadi and Farnsworth (59) and Sherif (62) found a relationship between prestige-weighted authors and judgement of worth of literary work. Michel, Rosenthal, and de Camp (47) found this relationship in prose work but did not find it in works of poetry.

Razran (56) found the influence of "national" names on judgements of photographs, as shown by expressed likes.

Clark and Clark (17), Blake and Dennis (12), and Springer (66) found that children develop concepts of group membership early.

Fernberger (21) found that men and women have stereotypes of one another.

Edwards (19,20) suggests that stereotypes vary in uniformity, direction, intensity, and quality. He found

relationships between direction and uniformity, direction and quality, and uniformity and intensity; however, Hoenfeld (60) did not agree completely with these findings.

Stagner and Osgood (68) found indications that stereotypes could change through events which work to change the perceived relationship of the observer with the stereotype.

Klineberg (37) is cited by Vinacke (71) as pointing out the fact that there is still uncertainty as to how closely verbal attribution of traits corresponds to the actual conceptual system.

Subjects in a study conducted by Child and Doob (16) had a tendency to assign approved traits to preferred groups, regardless of whether or not they were attributed to themselves.

Bettelheim (11) shows that stereotyping may be a two-way process, since, in his (extreme) instance, the Jew has a stereotype of the Gestapo man, as well as vice versa. Both tend to interpret the other's behavior in terms of the stereotype, and they act toward one another as they would toward the stereotype.

Such behavior does not appear to be incompatible with the results of the study made by O'Conner (51), a part of which was comprised of a scale designed to measure "intolerance of ambiguity," by Walk (72) whose items bear some resemblance to items on the scale which is the subject of

is study.

"Tolerance toward ambiguity" as investigated by Lenken-Brunswik (27) is associated with individuals whose attitudes cross national and racial lines or barriers of sex roles and dominance-submission patterns; prejudiced individuals tend to show rigidity in their cognitive processes.

Adorno, et al., (1) utilized stereotypy in thinking an important element in the California studies published as The Authoritarian Personality. In this study there is the following statement:

There is no simple gap between experience and stereotypy. Stereotypy is a device for looking at things comfortably; since, however, it feeds on deeplying unconscious sources, the distortions which occur are not to be corrected merely by taking a real look. Rather, experience itself is predetermined by stereotypy. The persons whose interviews on minority issues have just been discussed share one decisive trait. Even if brought together with minority group members as different from the stereotype as possible, they will perceive them through the glasses of stereotypy, and will hold against them whatever they are and do.... One cannot 'correct' stereotypy by experience; he has to reconstitute the capacity for having experiences in order to prevent the growth of ideas which are malignant in the most literal clinical sense.

Hoffer's (31) comments on "Doctrine" illustrated some of the individual and social concomitants of stereotypy in areas other than inter-personal relations. His theoretical presentation led Rokeach (58) to his work on dogmatism in a way that closely tied it with stereotypy. For his purposes, dogmatism was defined as:

- (a) a relatively closed cognitive system of beliefs and disbeliefs about reality,
- (b) organized around a central set of beliefs about absolute authority, which, in turn,
- (c) provides a framework for patterns of intolerance and qualified tolerance toward others.

Dogmatic behavior can be viewed as stereotypy in areas which value judgements are seen to be appropriate by the person making them. Rokeach (58) considered dogmatism with respect to political, religious, and scientific spheres of human activity. There is no reason to suppose that similar behavior could not be found in other spheres of human activity as well, other than the possibility of insufficient experience within some spheres, for an individual might not provide sufficient knowledge for a system of beliefs to be organized. There is, though, the question of individual differences in reacting to statements of dogmatic beliefs in the various spheres of human activity, and the relationship of the intensity of the reactions in one sphere to the reactions in others, regardless of experience in any or all spheres of activity.

Dogmatic statements of value judgements are frequently of the nature of concrete manipulation of more abstract concepts or of abstract manipulation of more concrete concepts. It is felt that the intensity of the individual's reaction to such statements might serve as an index for the

gree of stereotypy he would show in thinking. If this the case, then regardless of particular psychological experience in any area, or of lack of experience in others, stereotypy will influence the intensity with which he will respond to dogmatic statements.

Therefore, it is hypothesized:

- (1) Stereotypy in thinking can be measured by measuring the intensity of responses to dogmatic statements concerned with the various spheres of human activity.
- (2) Correlation between scores representing intensity of responses to dogmatic statements in various spheres of human activity will be high.

The problem is to construct a test comprised of dogmatic statements concerned with different spheres of human activity in which responses of various degree of intensity may be measured, to correlate the scores which represent the varying degrees of intensity with some outside criterion of stereotypy, and to obtain measures of the degree of relationship which might exist between degrees of stereotypy shown in responses to the different items of the test.

METHOD

The instrument; its construction.--Three hundred statements of a dogmatic or categorical nature which referred in some way to at least one of the spheres of human activity delineated by Spranger (65) and summarized by Allport (3) were constructed. In addition to dogmatic statements which were concerned with matters which might be thought to pertain to theoretical, economic, esthetic, social, political, and/or religious spheres of human activity, dogmatic statements about race were included. Statements made in newspapers, text books, religious tracts, scientific journals, novels, opinion or attitude scales, and daily conversions furnished material for this collection of items. Others were constructed by the writer.

These statements were submitted to a panel of judges, all students at Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma. These students¹ were instructed to select seventy-five of the 300 items for inclusion in the instrument. It was the purpose of this panel to eliminate excessive concentration or emphasis on

¹Roy Vance Ramsey, Freshman; Darrell Beil, Sophomore; Lynn Myers, Junior; Stanley LeVéque, Senior; Warren McClintock, Graduate I; and Perry Stinson, Graduate III.

any one area in which too many statements were thought to apply. The members of the panel were aware of the nature and purpose of the desired finished test.

The criteria for judging items specifically were:

- (1) Is the item comprehensible? Can the individual taking the test understand the item easily, quickly, without re-reading or study?
- (2) Is it clear that there is implied a definite category or class of objects or events in the statement?
- (3) Does the item sound plausible? Apparent absurdities or impossibilities should be discarded.
- (4) Are there already similar items which appear for any reason to be better phrased?
- (5) Is the item "common knowledge"? (to be included), or is it obviously a quotation from some source which might have prestige in the regard of the individual taking the test? (to be excluded)

Each judge was requested to submit at least ten items which would meet the criteria by which the original body of items were judged. These contributions were evaluated with the others by the panel members.

From the pooled items, 220 items were selected for the pilot study. (Because of an error, one item selected was not included in the schedule.)

They were arranged for scoring, using the Likert (42)

technique. Instructions for taking the test in the pilot study were as follows:

Read each item carefully. Under each item is drawn a line, divided as below: (see Figure 1.)

.VSA. .SA. .A. .?. .D. .SD. .VSD.

Figure 1. Line representing opinion range

This represents a range from very strong agreement to very strong disagreement. The letters represent the following:

VSA--very strong agreement
 SA---strong agreement
 A----agreement
 ?----neither agree nor disagree
 D----disagreement
 SD---strong disagreement
 VSD--very strong disagreement

Place a check on the line to indicate the degree of your feeling (agreement, disagreement) about the statement. Answer all statements.

Under each statement is a space for remarks about the statement. If you want to do so, use this space for remarks.

There are no "right" or "wrong" answers. Just check the line at the spot that shows how you feel about the statement. (See APPENDIX A for statements.)

Subjects.--The subjects were 135 students in a beginning course in psychology during the spring semester of 1954.

Selection of items.--The schedule was given to the subjects in two sessions; in the first, the first 114 items were given; in the second session, the remainder of the schedule was given. At both sessions, the instructions were read aloud to subjects at the beginning of the session.

Responses were scored in the manner shown in Figure 2.

.VSA.	.SA.	.A.	.?.	.D.	.SD.	.VSD.
6	5	4	3	2	1	0
1	2	3	4	5	6	6

Fig. 2. Method of scoring marks on opinion continuum

The numbers below the line represent the value given to marks within those categories. The scores were added for each individual taking the test, and the total scores were ranked from highest to lowest.

The highest scoring and the lowest scoring quartiles were separated from the rest of the tests and placed in two separate categories.

A tally of the way each individual in the highest scoring group marked each item was made; similarly, the scores of each individual for each item of the lowest scoring group were shown on the tally sheet. Arbitrarily selecting a cut-off point at the SA and SD lower boundaries, the items were analyzed for the degree each had contributed to the total score, using the Lawshe (39) nomograph. The procedure is illustrated below for item 217:

	VSA		SA		A		?		D		SD		VSD
High	7	0	8		5	1	0	6	0		4	0	1
Low	0	0	0		1	11	1	8	0		9	1	0

Fig. 3. Distribution of high and low scorers along opinion continuum (Item 217).

This indicates that twenty individuals in the high-scoring group checked in the "high-scoring" area while one individual in the low-scoring group did. This indicates that this item might discriminate between the high-scoring and low-scoring groups.

When these tallies are converted to percentages, it is found that 62% of the high scorers and 3% of the low scorers marked the "high-score" area on this item. On the Lawshe nomograph, this gives a discriminating power of 2.20.

All the items on the schedule were found to discriminate between high-scoring and low-scoring individuals. One hundred items were selected for the second schedule ranging in discriminatory power from 1.60 to 2.95.

This 100-item test has instructions similar to that of the schedule used in the pilot study. Items in it are arranged in descending order of discriminatory value

The instructions and test items are as follows:

Read each item carefully. Under each item is drawn a line, divided as below:

.VSA · SA · A · ? · D · SD · VSD.

Fig. 4. Opinion Continuum for GAS.

This represents a range from very strong agreement to very strong disagreement. The letters represent the following:

VSA--very strong agreement
 SA---strong agreement
 A----agreement
 ?----neither agree nor disagree
 D----disagreement
 SD---strong disagreement
 VSD--very strong disagreement

Place a check on the line to indicate the degree of your feeling (agreement, disagreement) about the statement.

Answer all the statements.

There are no "right" or "wrong" answers. Just check the line at the spot that shows how you feel about the statement.

Statements included in this test are found in

APPENDIX B.

From the total test, two forms, Form A and Form B, were constructed (APPENDIX C). Each was comprised of fifty items from the original test, Form A of the odd-numbered items and Form B of the even-numbered items. The instructions for each of the two forms are the same as the instructions for the total schedule. Scoring the test was made simpler by omitting the spaces between lettered sections of the opinion range line. The scores were awarded as follows:

VSA	.	SA	.	A	.	?	.	D	.	SD	.	VSD.
3		2		1		0		1		2		3

Fig. 5. Method of scoring opinion continuum for GAS.

It can be seen that for the total schedule a range in possible scores from 0 to 300 exists.

To determine the reliability and validity of the schedules (termed the General Attitude Survey and referred

so by the initials GAS for the total schedule, GAS-A for Form A, and GAS-B for Form B) was the next step.

To determine the reliability of the GAS, the split-halves method was used, test-retest procedure was used, and the Spearman-Brown reliability coefficient was computed. Reliability of GAS-A and GAS-B was computed by the alternate forms method.

To determine the validity of the schedules, in addition to the self-validating function the reliability coefficient has for the test, an outside criterion of stereotypy was needed to validate the test. For this purpose the extreme group method was used. Since stereotypy was conceived as a global function which might be expected to appear in value judgements in which dogma or dogmatic belief was a factor, three religious groups and group of research scientists were selected as groups which might represent opposite extremes in dogmatic or stereotyped thinking.

Subjects.--In testing the GAS for reliability, subjects were distributed in the following manner:

For the split-halves method, 135 beginning psychology students were used. (This was not the same group as the one used in the pilot study.) These subjects were in four different sections, one of thirty-two persons, one of twenty-three, one of forty-three, and one of thirty-seven. Three of these same sections were used to furnish subjects

For the test-retest. Because of absences, not all the students in each section were able to be in the test-retest group. The number of students who completed the test-retest procedure for the GAS was eighty-three; one section contributed thirty-six, one section twenty-one, and one section twenty-six. To test the reliability of GAS-A and GAS-B, one section of beginning psychology students was used. In this section, forty-three contributed to the alternate forms test, while forty contributed to the test-retest and to the split-halves method.

In determining the validity of the GAS, scores made on the GAS by the 135 beginning psychology students listed above were used in addition to scores for seventy-eight persons in religious groups, distributed as follows:

Men's Group, Roman Catholic Church-----16

Baptist Youth Group-----35

Presbyterian Youth Group-----27

Responses were obtained from fifty-seven members of an organization of scientific research personnel.

Procedure.--Each section of the beginning psychology classes was read the instructions for taking the GAS in a regular class session as the tests were distributed. Members of the classes who asked questions about individual items were told that questions could not be answered after the tests were distributed. The same administrative procedure was used for those sections which

participated in the retest, which was given a week later. In administering the GAS-A and GAS-B, the GAS-B was given first, during a regular class session; subjects were instructed to return this form on completion to the administrator and to pick up and complete a copy of the other form (GAS-A). The same procedure was followed for the second administration of these two forms which took place a week later.

In administering the GAS to the religious groups, each group was met in its own church or meeting-place after a regularly scheduled meeting for the group. The GAS was distributed, and the instructions were read aloud to the groups. Again, questions about items on the test were not answered.

In administering the GAS to the group of research workers, members of the Society of the Sigma Xi listed in the Oklahoma Agricultural and Mechanical College directory were sent a letter with a copy of the GAS through the campus mail. The letter is shown in APPENDIX D.

Of 132 members so circularized, fifty-seven responded in time to be included in the group (within three weeks of the time the schedules were mailed).

All the tests were scored; the mean, standard deviation standard error of the mean, and the standard error of the standard deviation were computed from the scores for each group by methods listed by Garrett (24).

Using Garrett's procedures, reliability of the GAS was computed by the test-retest method, the split-halves method, and the computation of the reliability coefficient of the whole test. For the GAS-A and the GAS-B, the test-retest method was used, the split-halves method was used, the Spearman-Brown coefficient of reliability was calculated, and the "alternate forms" method was used.

To determine validity of the test by comparing the results with an external criterion, scores of the "extreme groups" and of the psychology classes were tested to determine if differences existed between them and if these differences were significant.

Another test of validity made was the rank-differences test, which was made with members of the Baptist Youth Group. Members of the group were ranked by other members of the group, and their positions were compared with their comparative positions as determined by scores on the GAS.

RESULTS

Reliability coefficients for scores made by beginning psychology students on schedules designed to measure stereotypy in thinking appear in Table 1. All the reliability coefficients listed in Table 1 are significant at the .01 level.

Because of the small size of the N's in three groups, I-C, I-D, and IV-C, Table 1, the standard errors for the reliability coefficients are given in terms of the standard error of Fisher's function z .

The r of I-D is the one which can be reduced the lowest; taking the lower limit of the calculated .99 confidence interval would leave an r of .57, which is at the .01 level of significance.

Differences in GAS mean scores from tests taken by three religious groups, four beginning psychology classes, and a group of research scientists are not found to be significant as shown by Table 2.

Differences between standard deviations of scores of three religious groups, four psychology classes, and a scientific research group appear in Table 3. The standard deviation is significantly larger (at greater than the .01 level of confidence) for the scientific group than for any other group save the Presbyterian. The Presbyterian group, itself, has a larger standard deviation than other groups, though this difference is between the .05

nd .01 level of confidence. No other groups listed have significantly different standard deviations.

When members of the Baptist Youth Group who took the AS were rated by other members of the group, with respect to the degree they were thought to have internalized the receipts and teachings of their sect and to abide by and adhere to particularly Baptist teachings, the relationship between their positions on the rating-scales of three raters and the positions on the GAS (ranked 1 for most Baptist beliefs; 1 for highest scoring on GAS; 20 for least believing; 20 for lowest scoring.) was calculated. The P was found to be .31. This was not found to be a significant relationship.

TABLE 1

RELIABILITY OF THE GENERAL ATTITUDE SURVEY

	N	r	SEr	Spearman Brown r
I Test-retest:				
one week apart				
A. GAS-A ₁ * vs. GAS-A ₂	40	.86	.04	
B. GAS-B ₁ vs. GAS-B ₂	40	.85	.04	
C. GAS	26	.85	.22**	
D. GAS	21	.84	.24**	
E. GAS	36	.81	.06	
II Alternate forms:				
one week apart				
A. GAS-A ₁ vs. GAS-B ₂	40	.87	.04	
B. GAS-B ₁ vs. GAS-A ₂	40	.73	.07	
III Alternate forms:				
same day				
A. GAS-A ₁ vs. GAS-B ₁	40	.86	.04	
B. GAS-A ₂ vs. GAS-B ₂	40	.90	.03	
IV Split halves:				
A. GAS	43	.90	.03	.95
B. GAS	37	.92	.02	.96
C. GAS	23	.93	.22**	.96
D. GAS	32	.92	.03	.96
E. GAS-A	40	.89	.03	.94
F. GAS-B	40	.84	.05	.91

*Subscripts refer to order of taking test; 1 = first,
2 = retest

**SE of Fisher's function z; Formula 48, Garrett (24)

TABLE 2

SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS IN TERMS OF CRITICAL RATIOS

Group		Baptist	Catholic	Pres.	Class 1	Class 2	Class 3	Class 4	Sigma Xi	
	N	35	16	27	32	23	43	37	57	
	Mean	148.71	139.94	143.30	140.31	148.22	153.56	143.97	146.12	
Baptist	35	148.71	--	1.10	.60	1.23	.06	.75	.72	.32
Catholic	16	139.94	--	--	.32	.04	.83	1.65	.48	.65
Pres.	27	143.30	--	--	--	.31	.45	1.10	.07	.27
Class 1	32	140.31	--	--	--	--	.87	1.84	.50	.67
Class 2	23	148.22	--	--	--	--	--	.61	.48	.21
Class 3	43	153.56	--	--	--	--	--	--	1.38	.89
Class 4	37	143.97	--	--	--	--	--	--	--	.22
Sigma Xi	57	146.12	--	--	--	--	--	--	--	--

No significant difference between mean scores at the .05 level of confidence.

TABLE 3

SIGNIFICANCE OF DIFFERENCE BETWEEN STANDARD
DEVIATIONS IN TERMS OF CRITICAL RATIOS

Group		Baptist	Catholic	Pres.	Class 1	Class 2	Class 3	Class 4	Sigma Xi	
	N	35	16	27	32	23	43	37	57	
	SD	25.37	26.89	41.58	30.21	35.16	31.65	30.67	51.29	
Baptist	35	25.37	--	.27	2.52*	1.00	1.63	1.37	1.13	4.55**
Catholic	16	26.89	--	--	1.98*	.55	1.17	.81	.63	3.60**
Pres.	27	41.58	--	--	--	1.66	.70	1.50	1.63	1.29
Class 1	32	30.21	--	--	--	--	.77	.28	.09	3.44**
Class 2	23	35.16	--	--	--	--	--	.56	.71	2.27*
Class 3	43	31.65	--	--	--	--	--	--	.20	3.32**
Class 4	37	30.67	--	--	--	--	--	--	--	3.44**
Sigma Xi	57	51.29	--	--	--	--	--	--	--	--

*Significant at the .05 level of confidence.

**Significant at the .01 level of confidence.

DISCUSSION

The findings in this investigation indicate that one of the criteria was met, but the other was not. It becomes necessary to consider the reasons for this apparent anomaly.

If responses of the same intensity were made to statements concerned with topics in the spheres of theoretical, religious, racial, social, political, economic, or esthetic values, it was considered that the latent content of the concept is treated by Lazarsfeld (40) would be indicative of a personality factor which was expressed through responses to these various items. Intrinsically, this was found.

One of the assumptions made in this intrinsic analysis was that only one factor would be influential in producing responses of similar intensity for each of the several spheres of human interest represented in the scale. Because items in the scale were concerned with the concrete treatment of abstract concepts or the abstract treatment of concrete concepts, in many cases, it was further assumed that the one factor would be that one which has been defined as stereotypy in thinking.

When the various tests of reliability were applied to the GAS schedules (see Table 1), reliability coefficients for the various tests were found to be high enough that further investigation of the tests was deemed war-

anted.

"Known groups" tests were made to determine the extrinsic validity of the GAS. It was not to find and define the differentiating quality of religious groups and scientific workers that this schedule was given to both groups, but it was given to determine whether the GAS could be able to distinguish between the groups with respect to the assumed one quality which the test measured (27).

The failure of the GAS to distinguish between the religious groups and scientific research groups with regard to the mean score was crucial (Table 3).

That scientific personnel made a score representing (as defined in the test) as great a degree of dogmatic thinking as did non-scientific workers seriously reflected on the validity of the instrument or on the theory. Any or all of three explanations of the anomalous results may obtain:

- (1) The test, constructed for a student group, was an insufficient instrument to measure stereotypy in thinking in other populations.
- (2) Differences in degrees of stereotypy in thinking do not differentiate members of the particular known groups tested; that is, there may be no correlation of stereotypy in thinking and membership in the groups selected to validate the tests.

- (3) "Stereotypy in thinking" may be itself a fictional construct, without existence in any empirical sense, so that behavior attributed to such an inferred construct may actually be the result of other logical and psychological dynamics.

With respect to the third point, it may be that stereotypy is a portion of a larger verbal behavioral configuration which serves to provide the latent continua which would be responsible for the correlation of responses to items concerned with seemingly different spheres of interest. Again, other personality factors may determine the consistency of response intensity. In regard to this, there is some feeling that extreme marks may reflect other qualities than stereotypy in thinking. The extremes may be marked by hostile or frantic and daring people.¹

It seems probable that all three results obtain in some measure; that items suitable for student groups do not bear the same relevance in value-systems of non-student groups; and that responses may be to the construction of a statement. (One response to a dichotomous "all-or-none" type of statement was marked VSD with the comment, you can't say always about this," rather than to the supposed referent.)

¹~~Cannicott, R. G. (15) Head, Department of Psychology, Central State Griffen Memorial Hospital, Norman, Oklahoma.~~

Finally, the question of whether the "known groups" were typical must be considered. Since the town in which the test was constructed is a "college town" and the greater portion of the individuals who were members of the groups taking the schedules were students, the possibility exists that academic affiliation may serve as a source of ample contamination.

The variability which was found in the responses of the different groups may serve as an indication of shared frames of reference with regard to value-decisions and judgments in the spheres of activity which provided items on the schedules (see Table 3).

Greatest variability was found among members of the Sigma Xi, the society of scientific research personnel. The standard deviation for scores of this group was significantly larger than for any other group, at the .01 level of confidence, except for the Presbyterian Youth Group. The Presbyterian group showed a wider standard deviation than any other group, with the exception of Sigma Xi, though this difference was significant only by comparison with the Baptist and Catholic groups, and at the .05 level of confidence.

Individuals rated as most extreme in their adherence to the tenets of the Baptist religion made low scores on the GAS, resulting in a rank-difference correlation of but .31, which was not significant. It must be remembered

hat the population in this Baptist group was a student population in college. The possibility exists that the turn of character which motivated individuals to activity in the Baptist group might have motivated the same individuals to study courses in semantics, critical thinking, philosophic enquiry, psychology, or sociology which may have influenced responses on the GAS. Such an explanation would emphasize the degree of relationship which exists between group membership and personal motivation and interests.

SUMMARY AND CONCLUSION

A schedule comprised of dogmatic statements concerned with theoretical, religious, economic, social, esthetic, racial, and political spheres of activity to which agreement or disagreement could be recorded by means of the Likert technique was constructed. Alternate forms of the schedule were made to enable reliability of scores made by various groups to be calculated.

It was hypothesized that correlation between scores representing intensity of responses to dogmatic statements in various spheres of human activity would be high. Scores of responses of beginning psychology students to items on the test were found to be highly correlated. Significance at the .01 level of confidence was noted in all reliability tests.)

It was hypothesized that stereotypy in thinking could be measured by measuring the intensity of responses to dogmatic statements concerned with the various spheres of human activity. To test this hypothesis, extreme groups were scored on the instrument. The scores failed to discriminate between individuals of the group, although the group variability, as measured by the standard deviation of the group of fifty-seven members of Sigma Xi, was significantly different from the general student population. Another test was made using the rank-difference correlation of the size of the score on the schedule with

he rating of Baptist students who took the test. A p of .31 was found. This was not significant at either the .01 or the .05 level of confidence.

It is concluded that the test as developed and statistically analyzed did not measure stereotypy in thinking in individuals. The investigation of the process termed "stereotypy in thinking" has raised the question of whether the manifest relationship between reactions to dogmatic statements of concrete concepts treated abstractly or abstract concepts treated concretely in the various spheres of human activity can be accounted for by the process termed stereotypy.

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APPENDIX A

tatements included in GAS pilot study.

1. All men are created equal.
2. True Christians are honest in all situations.
3. No one can be perfectly free until everyone is free.
4. A person is either for education or against it.
5. You must choose between science and religion.
6. You can't trust a Russian.
7. All intellectuals are alike.
8. Modern art is nothing but a joke on the people that like it.
9. The most absent-minded people on earth are college professors.
0. What this country needs is less theorizing and more good hard work.
1. The search for knowledge is the mark of all great minds.
2. A man cannot be honest and become rich.
3. If it weren't for hypocrites, we would be better off.
4. The main cause for our troubles today is easy to see
5. Money is the root of all evil.
6. Every person is born sinful.
7. Leadership requires personal qualities which inspire sub-ordinates with absolute confidence and respect.
8. There are some people who will never amount to anything.
9. Either the Democrats or the Republicans are wrong.
0. Any re-blooded American will fight to defend his property.

1. There is a place for everything, and everything should be in its place.
2. There are some people who are naturally evil.
3. A person with bad manners, habits, and breeding can hardly expect to be liked and accepted by decent people.
4. All Negroes are musically talented.
5. What youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country
6. You can't trust the Russians.
7. A person who does not enter a contest to win should not enter in the first place.
3. Americans are good to foreigners.
9. No matter how they act on the surface, men are interested in women for only one reason.
0. If it weren't for labor unions, we would be better off.
1. Confidence is the key to success.
2. What this country needs is fewer laws and agencies, and more courageous, tireless, devoted leaders whom the people can put their faith in.
3. All criminals should be punished more severely to stop the spread of crime.
4. Loyalty to the Nation is the highest virtue.
5. Homosexuality is a particularly rotten form of delinquency and ought to be severely punished.
6. No man controls his own destiny.
7. You can always recognize a leader in any group.
8. It is only natural and right that women be restricted in certain ways in which men have more freedom.
9. People who lead healthy lives will be healthy.
0. Women are unpredictable.

1. It is a fundamental American tradition that the individual must remain free of government, free to make money and spend it as he likes.
2. Everyone knows right from wrong.
3. A person is either for a better society or against it.
4. Experience is the best teacher.
5. The best way to solve social problems is to stick close to the middle of the road, to move slowly, and to avoid extremes.
6. Scientists have a personality all their own.
7. Women spend more money on clothing than is necessary.
3. People of average intelligence are happier than geniuses.
9. God helps those who help themselves.
0. You can't trust a foreigner.
1. There will always be wars because, for one thing, there will always be races who ruthlessly try to grab more than their share.
2. All modern music is noisy and discordant.
3. All Jews are the same.
4. Old maids are naturally mean and bitter.
5. It is Man's nature to protect the weak.
6. We need someone in the government to enforce our democratic principles.
7. Knowledge is a supreme value.
8. Politicians can not be both honest and successful.
9. Mexico can never advance to the standards of the US, due mainly to the innate dirtiness, laziness, and general backwardness of the Mexicans.
0. It it weren't for labor unions, we would be better off.

1. The reason for our success as a nation is the application of democracy in our government.
2. There is nothing new under the sun.
3. There are some people who instinctively do the right things.
4. Either intellectuals or businessmen are wrong.
5. A large scale system of sterilization would be one good way of breeding out criminals and other undesirable elements in our society and so raise its general standards.
6. Good and Evil are as opposite as night and day.
7. A person is either for Progress or against it.
8. There is a right way and a wrong way to do anything.
9. European refugees may be in need, but it would be a mistake to lower our immigration quotas and allow them to flood the country.
0. You can't trust politicians.
1. Faith in God is greater than all science.
2. The people who raise all the talk about putting Negroes on the same level as whites and giving them the same privileges are radical agitators trying to stir up conflicts.
3. All politicians are corrupt.
4. Modern painting is a true reflection of the beauty of Nature in our time.
5. Men are all the same.
6. In view of the present national emergency, it is important to limit responsible government jobs to native, white, Christian Americans.
7. True love is blind to the faults of the beloved.
8. Whatever is good for business is good for the country.
9. Only fools waste their time learning more than they need to know.

30. If it weren't for the Negroes, we would be better off.
31. Obedience is the most important trait for a child to have.
32. Doing nothing is better than doing the wrong thing.
33. There are no circumstances which would justify giving up any of our Constitutional freedoms.
34. The main threat to American institutions during this century has come from the infiltration of foreign ideas, doctrines, and agitators.
35. If everyone did just as he pleased, everything would be in a mess.
36. All Negroes are talented musically.
37. The monied class is interested only in maintaining the status quo.
38. One main difficulty with allowing the entire population to participate fully in government affairs is that such a large percentage is innately deficient and incapable.
39. There is no love like the love of a mother for her child.
0. If it weren't for the Communists, we would be better off.
1. People would be better off if they did not try to climb above their class.
2. Although women are necessary now in the armed forces and in industry, they should be returned to their proper place in the home as soon as possible.
3. Foreign foods with fancy names are too rich and expensive for simple, plain people to enjoy.
4. People who work at something productive should earn more than mere artists or entertainers.
5. Most people who go to church every Sunday are only hypocrites.
6. There is an obvious difference between normal people and the insane.

97. People with bad blood should not have families.
98. Loyalty to friends and family should be required of all people.
99. People who don't work shouldn't eat.
00. There will always be superior and inferior nations in the world and, in the interests of all concerned, it is best that the superior ones be in control of world affairs.
01. Progressive education is superior to the traditional type education.
02. Young boys have more fun than young girls.
03. Patriotism and loyalty are the first and most important requirements of a good citizen.
04. A person is either for law and order or against it.
05. You must choose between politics and religion.
06. Socialism is only diluted Communism.
07. You can't trust an Oriental.
08. All women are alike.
09. Only in the Bible will you find ultimate Truth.
10. The interests of the government are different from those of private businessmen and bankers.
11. There are some things it is better not to know.
12. If preachers were honest, there would be no churches.
13. If it weren't for taxes, we would be better off
14. Things are never what they seem.
15. (This statement omitted through error.)
16. Clumsy people are not as smart as graceful people.
17. Science is in direct conflict with religion.
18. Negro athletes are the finest in the world.

- .19. People who pay more taxes should have more privileges.
- .20. If it weren't for the Jews, we would be better off.
- .21. There is a limit to the things man can understand.
- .22. There is a world of difference between politicians and statesmen.
- .23. A leader should be able and willing to do anything that subordinates are required to do.
- .24. The Jews are responsible for some of our greatest scientific advances.
- .25. Woman's place is in the home.
- .26. There is something wrong with a boy who would rather read than play football.
- .27. There is unlimited opportunity for advancement in the United States.
- .28. Genius is the next thing to insanity.
- .29. People with any Negro blood are Negroes.
- .30. You can always tell a college man.
- .31. Loyalty to God is more important than loyalty to country.
- .32. Every man has his price.
- .33. A person is either for democracy or against it.
- .34. You can't trust foreigners.
- .35. All Chinese are alike.
- .36. What this country needs is a return to the faith of our fathers.
- .37. There are some people who are just naturally good.
- .38. If Negroes kept in their place there would be less conflict between races.
- .39. Male ballet dancers are effeminate.
- .40. Abnormal people are a menace to society.

141. Conscientious objectors are no better than draft dodgers and should be punished.
142. No one should ever think evil of his parents.
143. Minister's children are always wild and reckless.
144. If a person wants to do right, he will do right.
145. Social fraternities and sororities help students to round out their personalities, so should be encouraged.
146. A strong mind goes with a weak body.
147. Horror comic books and stories should be banned from the newsracks in drugstores.
148. To learn a skill is to become educated.
149. Science will be able to tell us everything we need to know in a few years.
150. You can't trust a Communist.
151. If it weren't for greed we would be better off.
152. Either the Catholics or the Protestants are wrong.
153. It is easy to recognize a Jew.
154. Charity should begin at home.
155. College football players can't be good students because they haven't time to study.
156. Marriages which mix nationalities are quite all right.
157. Certain races are smarter than other races.
158. There will always be war on this earth.
159. World tension has been strained to the breaking point, and unless something to relieve the tension is done at once, war will be inevitable.
160. Grades should not be given in school.
161. A person's destiny depends entirely on his luck.

162. Some people seem to sense danger.
163. If it weren't for liquor we would be better off.
164. Men become policemen because they are too lazy to take some other type of job.
165. All fanatics should be carefully controlled.
166. Nothing should be done that isn't necessary.
167. A person who has trouble learning something remembers it better.
168. There are no limits to man's expanding knowledge.
169. All politicians are alike.
170. You can't trust people.
171. In the long run, Justice will triumph.
172. People who work their way through college are the best students.
173. America has made more progress than any other country.
174. Consistent winning shows excellence in sports.
175. A child who is brilliant when young will burn out and become dull by maturity.
176. Right and Wrong are direct opposites.
177. No man can exist alone.
178. Common sense always furnishes the best solution to any problem.
179. No one can be perfectly moral until all the world is moral.
180. A person is either for individualism or against it.
181. You can't trust a politician.
182. If it weren't for concentrating on winning elections we would be better off.
183. America will always fight for the right.

184. All men reap the harvest of their own planting.
185. There is only one right person for each of us to marry.
186. People who are always talking never think.
187. There will always be poverty.
188. All power is God's.
189. You must choose between socialism and democracy.
190. All Negroes are the same.
191. Regular church-goers are more moral than non-churchgoers.
192. Most problems today could be solved better by logic than by emotion.
193. The man who would betray a friend is worse than a criminal.
194. Only practical men get anything accomplished.
195. A strong silent person feels things more deeply than does one who talks easily.
196. Children today need discipline more than anything else.
197. There is one great love in the life of every person.
198. Education is a failure for the average highschool student.
199. A strong will can overcome all difficulties.
200. People who lead sinful lives always come to bad ends.
201. Ignorance and stupidity are the causes for superstition.
202. A strong mind goes with a healthy body.
203. There is always one best solution to any problem.
204. All that glistens is not gold.
205. Everyone desires immortality.

206. If you try to please everybody, you will not please anybody.
207. Of the arts, there is one superior to all the others.
208. Anything that is really good will be good forever.
209. There is a time for all things.
210. Basically, everyone is honest.
211. To the pure in heart, all things are pure.
212. Nothing is permanent, everything must change.
213. The American way of life alone permits man perfect freedom.
214. Intelligent people no longer accept the teachings of the church.
215. Friends hold all things in common.
216. All work is noble.
217. If a man works hard enough, he can accomplish anything he sets out to do.
218. The American form of government is the only one in which a man has a chance.
219. A mentally ill person should be put in an asylum for his own good and for the good of society.
220. Only a fool would deny the value of religion.

APPENDIX B

Statements included in GAS.

1. There is a limit to the things man can understand.
2. Certain races are smarter than other races.
3. Patriotism and loyalty are the first and most important requirements of a good citizen.
4. It is man's nature to protect the weak.
5. All politicians are alike.
6. It is a fundamental American tradition that the individual must remain free of government, free to make money and spend it as he likes.
7. Only a fool would deny the value of religion.
8. People who work their way through college are the best students.
9. If it weren't for concentrating on winning elections, we would be better off.
10. A mentally ill person should be put in an asylum for his own good and for the good of society.
11. Young boys have more fun than young girls.
12. One main difficulty with allowing the entire population to participate fully in government affairs is that such a large percentage is innately incapable.
13. If you try to please everybody, you will not please anybody.
14. What this country needs is fewer laws and agencies, and more courageous, tireless, devoted leaders whom the people can put their faith in.
15. Science will be able to tell us everything we need to know in a few years.
16. If a man works hard enough, he can accomplish anything he sets out to do.
17. All work is noble.
18. A person is either for democracy or against it.

19. Either intellectuals or businessmen are wrong.
20. You can't trust politicians.
21. A person's destiny depends entirely on his luck.
22. True love is blind to the faults of the beloved.
23. There are no circumstances which would justify giving up any of our Constitutional freedoms.
24. World tension has been strained to the breaking point, and unless something to relieve the tension is done at once, war is inevitable.
25. Right and Wrong are direct opposites.
26. No one can be perfectly moral until all the world is moral.
27. The reason for our success as a nation is our application of democracy in government.
28. People who work at something productive should earn more than mere artists or entertainers.
29. Progressive education is superior to the traditional type education.
30. A person is either for law and order or against it.
31. There are some people who are just naturally good.
32. Common sense always furnishes the best solution to any problem.
33. If it weren't for taxes, we would be better off.
34. Nothing should be done that isn't necessary.
35. You can't trust foreigners.
36. If it weren't for the Jews, we would be better off.
37. A strong mind goes with a weak body.
38. The interests of the government are different from those of private businessmen and bankers.
39. If preachers were honest, there would be no churches.
40. Everyone desires immortality.
41. All that glistens is not gold.

42. You can always tell a college man.
43. Ignorance and stupidity are the causes for superstition.
44. Either the Democrats or the Republicans are wrong.
45. A strong will can overcome all difficulties.
46. Most people who go to church every Sunday are only hypocrites.
47. Conscientious objectors are no better than draft dodgers and should be punished.
48. Basically, everyone is honest.
49. Children today need discipline more than anything else.
50. Some people seem to sense danger.
51. All Jews are the same.
52. Nothing is permanent, everything must change.
53. Doing nothing is better than doing the wrong thing.
54. Everyone knows right from wrong.
55. There will always be wars because, for one thing, there will always be races who ruthlessly try to grab more than their share.
56. Every person is born sinful.
57. There will always be superior and inferior nations in the world and, in the interests of all concerned, it is best that the superior ones be in control of world affairs.
58. Loyalty to the Nation is the highest virtue.
59. There are some things it is better not to know.
60. The American way of life alone permits man perfect freedom.
61. Obedience is the most important trait for a child to have.
62. There will always be war on this earth.
63. Negro athletes are the finest in the world.
64. A person who does not enter a contest to win should not enter in the first place.

65. God helps those who help themselves.
66. You can't trust people.
67. A child who is brilliant when young will burn out and become dull by maturity.
68. Ministers' children are always wild and reckless.
69. Old maids are naturally mean and bitter.
70. All modern music is noisy and discordant.
71. If it weren't for greed we would be better off.
72. People who lead sinful lives always come to bad ends.
73. You must choose between socialism and democracy.
74. The best way to solve social problems is to stick close to the middle of the road, to move slowly, and to avoid extremes.
75. America will always fight for the right.
76. Science is in direct conflict with religion.
77. Any red-blooded American will fight to defend his property.
78. Good and Evil are as opposite as night and day.
79. Charity should begin at home.
80. Only practical men get anything accomplished.
81. You must choose between politics and religion.
82. We need someone in the government to enforce our democratic principles.
83. There are some people who are naturally evil.
84. There is one great love in the life of every person.
85. The American form of government is the only one in which a man has a chance.
86. Woman's place is in the home.
87. Anything that is really good will be good forever.
88. No man controls his own destiny.

89. If everyone did just as he pleased, everything would be in a mess.
90. There is no love like the love of a mother for her child.
91. Although women are necessary now in the armed forces and in industry, they should be returned to their proper place in the home as soon as possible.
92. Things are never what they seem.
93. There is something wrong with a boy who would rather read than play football.
94. To learn a skill is to become educated.
95. No one should ever think evil of his parents.
96. Only fools waste their time learning more than they need to know.
97. Friends hold all things in common.
98. Intelligent people no longer accept the teachings of the church.
99. A strong mind goes with a healthy body.
100. Knowledge is a supreme value.

APPENDIX C

Statements included in alternate forms (A and B) of the GAS.

Form A

1. There is a limit to the things man can understand.
2. Patriotism and loyalty are the first and most important requirements of a good citizen.
3. All politicians are alike.
4. Only a fool would deny the value of religion.
5. If it weren't for concentrating on winning elections, we would be better off.
6. Young boys have more fun than young girls.
7. If you try to please everybody, you will not please anybody.
8. Science will be able to tell us everything we need to know in a few years.
9. All work is noble.
10. Either intellectuals or businessmen are wrong.
11. A person's destiny depends entirely on his luck.
12. There are no circumstances which would justify giving up any of our Constitutional freedoms.
13. Right and Wrong are direct opposites.
14. The reason for our success as a nation is our application of democracy in government.
15. Progressive education is superior to the traditional type education.
16. There are some people who are just naturally good.
17. If it weren't for taxes, we would be better off.
18. You can't trust foreigners.
19. A strong mind goes with a weak body.

20. If preachers were honest, there would be no churches.
21. All that glistens is not gold.
22. Ignorance and stupidity are the causes for superstition.
23. A strong will can overcome all difficulties.
24. Conscientious objectors are no better than draft dodgers and should be punished.
25. Children today need discipline more than anything else.
26. All Jews are the same.
27. Doing nothing is better than doing the wrong thing.
28. There will always be wars because, for one thing, there will always be races who ruthlessly try to grab more than their share.
29. There will always be superior and inferior nations in the world and, in the interests of all concerned, it is best that the superior ones be in control of world affairs.
30. There are some things it is better not to know.
31. Obedience is the most important trait for a child to have.
32. Negro athletes are the finest in the world.
33. God helps those who help themselves.
34. A child who is brilliant when young will burn out and become dull by maturity.
35. Old maids are naturally mean and bitter.
36. If it weren't for greed we would be better off.
37. You must choose between socialism and democracy.
38. America will always fight for the right.
39. Any red-blooded American will fight to defend his property.

40. Charity should begin at home.
41. You must choose between politics and religion.
42. There are some people who are naturally evil.
43. The American form of government is the only one in which a man has a chance.
44. Anything that is really good will be good forever.
45. If everyone did just as he pleased, everything would be in a mess.
46. Although women are necessary now in the armed forces and in industry, they should be returned to their proper place in the home as soon as possible.
47. There is something wrong with a boy who would rather read than play football.
48. No one should ever think evil of his parents.
49. Friends hold all things in common.
50. A strong mind goes with a healthy body.

Form B

1. Certain races are smarter than other races.
2. It is man's nature to protect the weak.
3. It is a fundamental American tradition that the individual must remain free of government, free to make money and spend it as he likes.
4. People who work their way through college are the best students.
5. A mentally ill person should be put in an asylum for his own good and for the good of society.
6. One main difficulty with allowing the entire population to participate fully in government affairs is that such a large percentage is innately incapable.
7. What this country needs is fewer laws and agencies, and more courageous, tireless, devoted leaders whom the people can put their faith in.

8. If a man works hard enough, he can accomplish anything he sets out to do.
9. A person is either for democracy or against it.
10. You can't trust politicians.
11. True love is blind to the faults of the beloved.
12. World tension has been strained to the breaking point, and unless something to relieve the tension is done at once, war will be inevitable.
13. No one can be perfectly moral until all the world is moral.
14. People who work at something productive should earn more than mere artists or entertainers.
15. A person is either for law and order or against it.
16. Common sense always furnishes the best solution to any problem.
17. Nothing should be done that isn't necessary.
18. If it weren't for the Jews, we would be better off.
19. The interests of the government are different from those of private businessmen and bankers.
20. Everyone desires immortality.
21. You can always tell a college man.
22. Either the Democrats or the Republicans are wrong.
23. A strong will can overcome all difficulties.
24. Basically, everyone is honest.
25. Some people seem to sense danger.
26. Nothing is permanent, everything must change.
27. Everyone knows right from wrong.
28. Every person is born sinful.
29. Loyalty to the Nation is the highest virtue.

30. The American way of life alone permits man perfect freedom.
31. There will always be war on this earth.
32. A person who does not enter a contest to win should not enter in the first place.
33. You can't trust people.
34. Ministers' children are always wild and reckless.
35. All modern music is noisy and discordant.
36. People who lead sinful lives always come to bad ends.
37. The best way to solve social problems is to stick close to the middle of the road, to move slowly, and to avoid extremes.
38. Science is in direct conflict with religion.
39. Good and Evil are as opposite as night and day.
40. Only practical men get anything accomplished.
41. We need someone in the government to enforce our democratic principles.
42. There is one great love in the life of every person.
43. Woman's place is in the home.
44. No man controls his own destiny.
45. There is no love like the love of a mother for her child.
46. Things are never what they seem.
47. To learn a skill is to become educated.
48. Only fools waste their time learning more than they need to know.
49. Intelligent people no longer accept the teachings of the church.
50. Knowledge is a supreme value.

APPENDIX D

Letter sent with GAS to members of Sigma Xi.

May 19, 1955

Dear (name of addressee placed here)

Will you assist me in the development of a problem for a Master's thesis by filling out the enclosed general attitude survey?

The Problem is one of test construction. A sampling has been made of student opinion for this purpose but no sample of the opinion of the professional group on our campus has been obtained. To sample a particular segment of that group, certain members of the staff and faculty are being asked to help by filling out these surveys.

If you will help by placing your name on the cover and filling out the survey, then returning it to me through campus mail, I would sincerely appreciate it.

Yours truly,

/s/Vernon L. Kiker, Jr.

Vernon L. Kiker, Jr.
c/o Psychology Department

VITA

Vernon Lee Kiker, Jr.
candidate for the degree of
Master of Science

Thesis: CONSTRUCTION OF A TEST FOR STEREOTYPY IN THINKING

Major: Psychology

Biographical and Other Items:

Born: December 8, 1926 at Wewoka, Oklahoma

Undergraduate Study: Oklahoma Military Academy
1943-44.

Oklahoma Agricultural and Mechanical College
1944-48.

Graduate Study: Oklahoma Agricultural and Mechanical
College, 1953-54.

Experiences: Army 1948-50, Ranching 1950-51, Army,
4th Infantry Division, Germany, 1951-52.

Member of Reserve Officers Association and Psi Chi
National Honorary Psychological Association.

Date of Final Examination: July, 1955