A LANGUAGE PARADIGM AS AN INDICATOR OF THE CAUSAL ATTRIBUTION PROCESS

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INTRODUCTION

Attribution theory deals with the human inferential process about the causes of behavioral acts. When person X perceives an action by person Y, both he and person Y must go through some inferential process as to the meaning of the action -- why the action was committed. Attribution theorists try to determine what causal attributions are made as a result of the perception of an action and how the attributions are made.

When the perceiver of a behavioral action makes an inference about the cause of the act, he is also making an inference about the generality of this act to other actors, other objects or recipients of the action, and other circumstances. For instance, if he decides that it was something unique about person Y that made him act on this object on this occasion, he might be willing to say person Y would act the same way towards other objects in other circumstances, but not that other people would act in this manner towards this object on this occasion. In other words, the perceiver would be willing to generalize to other objects or recipients of the action and other circumstances, but not to other actors.

One paradigm which attempted to approach this problem of inferences about generality deals with subjective induction (Gilson and Abelson, 1965; Kanouse, 1971). Subjects were presented with evidence in the form of factual statements -- someone acting upon or having a
feeling towards something -- and then asked whether they agreed or disagreed with a statement which generalized the action to other objects (object generalization) or other actors (subject generalization). For example, subjects were told that George, an electrician, goes to comedy films. Then, they were asked if electricians go to comedy films (subject generalization), or if George goes to films (object generalization).

If the subject agrees with an assertion generalizing the subject, he is willing to say that the whole class of actors of which the actor in the evidence statement is a member would act in the same way towards this object (e.g. "electricians," of whom George is one member, go to comedy films). If the subject agrees to an assertion generalizing the object, he agrees that the actor in the evidence statements would behave in the same manner towards the other members of the class of objects of which this object is an example (e.g. George goes to films if he goes to comedy films).

Gilson and Abelson used this paradigm to investigate the relative ease with which individuals made subject and object generalizations. The researchers presented subjects with a 128-item questionnaire, consisting of 64 generalizations representing subject-specific evidence and 64 generalizations representing object-specific evidence. An example of each of the two types of assertion are the following:

Altogether there are three kinds of tribes:

Southern, Northern, Central
Southern tribes do not have sports magazines.

Northern tribes have sports magazines.

Central tribes do not have sports magazines.

Do tribes have sports magazines?

Altogether there are three kinds of magazines:

Sports, News, Fashions

Southern tribes do not have sports magazines.

Southern tribes do not have news magazines.

Southern tribes have fashion magazines.

Do tribes have magazines?

Note that, in each set of evidence statements, there is only one positive instance of the subject doing something to or feeling something toward the object. The other two statements indicate that no such action or feeling has occurred.

They found that subjects were willing to endorse generalizations the majority of the time, even though only one positive instance of a particular actor acting upon a particular object was given in the evidence statements. Subjects agreed significantly more often to a generalization from a particular object to an assertion about its object class (object generalization) than to a generalization from a particular subject, or actor, to an assertion about its subject class (subject generalizations). Subjects responded 71% of the time with "yes" to a question like, "Do Southern tribes have magazines?", based upon the one positive instance of "Southern tribes have fashion magazines." Subjects responded 62% of the time in the affirmative to
questions like, "Do tribes have sports magazines?", based upon one positive instance of one kind of tribe having sports magazines.

This difference suggests that individuals see objects, or recipients, of an action or feeling as more homogeneous to, or undifferentiated from, other objects than they see subjects, or actors, from other subjects or actors.

Gilson and Abelson found further that, although the words used as sentence subjects and objects did not differ greatly among themselves as to their generalizing power, the verbs did. The researchers grouped sentence verbs into two broad categories: manifest verbs, indicating an overt action of some sort, and subjective verbs, indicating a feeling, or subjective state, on the part of the actor, or subject, of the sentence. Subjects agreed with assertions containing manifest verbs significantly more than with those containing subjective verbs.

From the finding, Gilson and Abelson reasoned that verbs in generic statements must have some sort of "implicit quantifiers." The implicit quantifier would be some extra meaning that the subjects read into the sentences concerning the number of subjects doing the verbing or the number of objects being verbed. For example, subjects might read the statement, "electricians go to comedy films," as "some electricians go to comedy films." Or, subjects may interpret the statement, "George goes to films," as, "George goes to a few films."

The generalizing power of the verb would depend upon its implicit quantifier, which indicated how many particular instances of a subject or object are required to generalize to the class of subjects or objects.
Manifest verbs could have lower implicit quantifiers than subjective verbs.

Gilson and Abelson set up items using the same general statements presented in the earlier questionnaire. These items had a general statement with "quantifier" scales inserted before the sentence subject and between the sentence object and the verb, as follows:

<table>
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<tr>
<th>All</th>
<th>Most</th>
<th>Many Artists avoid</th>
<th>All</th>
<th>Most</th>
<th>Many magazines</th>
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Subjects checked the minimal number of particular instances they felt would be necessary to justify the general statement.

The results indicated that subjects required more instances with sentence-subjects than with sentence-objects, and more instances with subjective verbs than manifest verbs. For example, these subjects may read, "electricians go to films," as, "many electricians go to some films." They may read, "electricians go to films," as "electricians go to some films," while interpreting, "electricians hate films," as, "electricians hate many films."

The results from the quantifier scales may be interpreted in similar terms to those of the basic paradigm. Actors, or subjects, were seen as less homogeneous than objects of the action or feeling. More particular instances of the subject class were required to make an unqualified statement using the subject class than instances of the object to make an unqualified statement using the object class. Further,
fewer instances were required to accept a statement using a manifest verb than one employing a subjective verb. Saying, "Artists buy magazines" means, "Artists buy a few magazines," but, "Artists hate magazines" means, "Artists hate most magazines."

Kanouse and Gross (1970) followed up the results of the Gilson and Abelson (1965) study. They conceived of the inferential process from a specific act to an assumption about the general disposition of the actor as a one- or two-step process, as in the example below. The attributor or perceiver could go directly from, "O destroys Reader's Digests," to "O hates magazines" (path 3). Or, he could take the intermediate path 1 or path 2, below.

\[
\text{Evidence} \quad \begin{array}{c}
(0 \text{ destroys magazines}) - \rightarrow 3 \rightarrow 0 \text{ hates magazines.} \\
\end{array}
\]

\[
0 \text{ destroys Reader's Digests.} - \rightarrow 2 \rightarrow (0 \text{ hates Reader's Digests})
\]

If the attributor took an intermediate path, Kanouse and Gross believed, on the basis of the Gilson and Abelson results, that he would prefer path 1 over path 2 (path 1 contained a manifest verb and path 2 a subjective). Subjects in the Gilson and Abelson study affirmed general statements containing manifest verbs more often than general statements containing subjective verbs. Further, given that acceptance of the statement in path 1 or path 2 increases the probability of the subject's acceptance of the final statement, "O hates magazines" (the statements in path 1 and path 2 are more general than the initial statement, hence, they are closer in generality to the final statement), the subject's
preference for path 1 over path 2 should lead him to affirm the final statement following path 1 more often than the final statement following path 2.

To test these hypotheses, Kanous and Gross (1970) presented subjects with a number of items such as the one above and made salient for subjects one or the other intermediate path, by giving different groups one or the other intermediate inference as a question. The subjects were given an evidence statement such as, "O destroys Reader's Digests," followed, in different groups, by a question embodying path 1 or path 2, followed further by the conclusion question, "Does O hate magazines?" Their results were in line with the prediction. Subjects said "yes" to the intermediate question, "Does O destroy magazines?", containing the manifest verb, more often than to, "Does O hate Reader's Digests?", containing the subjective verb. Those subjects to whom path 1 had been made salient responded more frequently in the affirmative to the final question than those to whom path 2 was made salient.

Kanous and Gross interpreted the results to mean that subjects, in order to proceed from the initial evidence statement to the attribution of a general disposition, prefer to generalize to the object class, of which the object of the manifest act is a member, before "explaining" the action in intentional terms, such as "hate," rather than after. Thus, they would select the statement, "O destroys magazines," in favor of, "O hates Reader's Digests."

Gilson, Abelson (1965), and Kanous (1971) have suggested the paradigms described above reflect an attribution process. They believe that subjects' responses to the generalization questions and implicit
quantifier scale items indicate how unique the subjects view the actor (in real behavioral events) and the object acted upon. Acceptance of a generalization by a subject is hypothesized to mean that the actor (subject generalization), or that acted upon (object generalization), is not regarded as unique; either the actor is seen to be no different from any other actor, or the object is seen as no different from any other object. Thus, the answers to the generalization questions reflect the relative tendency to attribute some unique characteristic to either the actor or recipient of the action. These investigators appear to conceive of the subject as similar to the observer of a behavioral event, and his attribution (or his failure to make one) of unique characteristics to the actor or recipient as implying the subject's inference as to the cause of the event. If the subject generalizes to the object class, this implies that he does not differentiate between possible recipients of the action. The specific characteristics of the particular object of the action (the actor's environment) are not important, therefore the specific characteristics of the actor must be significant in causing this particular behavioral event. For example, suppose George tears up Saturday Review magazines. If Saturday Review is not seen as different from other magazines, then it is not something special about this magazine that is seen to have caused the actor's behavior. It is likely that the subject filling out the questionnaire views the action as caused by a specific characteristic of George.

Jones and Davis (1965) have developed a theory of "correspondent inferences," to account for this type of attribution process in which
an observer infers the causes of another's action. Central to the
theory is the idea of "correspondence," which they define as the degree
to which the act and the underlying attribute or disposition are
similarly described by the observer's inference.

All actions have effects upon the environment. From the ob-
server's standpoint, any effect of the actor's action is a potential
reason why the actor committed the act. When the observer infers the
actor's reason for causing a given effect, he is specifying the actor's
intention and, indirectly, the actor's underlying disposition. Intentions
and dispositions are attributes of a person, hence, when the observer
perceives another person doing something, he may infer some unique
characteristic of the actor as the cause of the action, or he may look
to the environment for a cause. Correspondence increases to the extent
that he infers some unique disposition of the actor as cause.

Correspondence depends on two factors. The first, Jones and
Davis refer to as "commonality" of effects of the action. Given that
the actor had alternative actions available to him, commonality refers
to the effects of actions not chosen that are the same as those of the
action committed. The observer, in looking for reasons for an actor's
behavior, tries to single out effects from the chosen alternative that
are not "common" with those of the unchosen alternative. Only when the
observer can isolate a non-common effect, can he make an attribution
about an intention or disposition of the actor. And, he must isolate
one non-common effect from other non-common effects.

Further, in order to make an attribution about an intention or
disposition of the actor, the observer must check the second determinant
of correspondence, the social desirability of the act. The more socially desirable the act, or the more the actor is constrained by the setting in which he finds himself, the less likely the observer of his action will make an inference about the actor's unique intentions or disposition.

Jones and Davis (1965) describe an experiment by Jones, et al. (1961), where they manipulated the constraint of the setting, the choice variable, to see its effect on the attribution of disposition, or correspondence. Subjects heard one of four tape-recorded job interviews, in which the interviewee was instructed to appear very interested in qualifying either as a prospective submariner or as an astronaut. Subjects heard the interviewer describe the qualifications for the job of submariner or astronaut. Then, some subjects heard the interviewee behave in line with the requirements of the job, while other subjects heard him behave out of line with these requirements.

On subsequent evaluations of the interviewee, subjects were much more extreme and confident for the interviewee behaving out of line with requirements. When the interviewee selected the socially desirable action, subjects hesitated to make inferences about his disposition. But they did not hesitate when the interviewee went against the constraints of the setting, because they learned more about his uniqueness in that instance.

Bem (1972) has suggested that actors behave in similar ways when making inferences about their own behavior. They examine the stimulus object upon which the act was committed and the circumstances within which it was committed. Then, the actor tries to determine what it is
about himself, the stimulus, or the situation that made him act the way he did.

A study by Davison and Valins (1969) provides some support for Bem's conception. Subjects were given a series of shocks, increasing in intensity. They were to report when the shocks became too painful to tolerate. Then, they were given a drug, that was supposed to enable them to withstand greater shock, and given a second series of shocks. The drug was a placebo, and the shocks had actually, unknown to the subjects, been halved, so that the subjects were able to withstand twice as much shock. Following this second set of shocks, some subjects were informed the drug was a placebo, while others were told only that the drug had worn off. A third set of shocks was administered. The subjects who were told about the placebo were able to withstand greater shock than those told the drug had worn off, suggesting they may have attributed to themselves an increased ability to withstand shocks. The subjects who thought they had taken a real drug attributed their behavior during the second set of shocks to the drug, not to themselves.

Another study by Kiesler, Nisbett, and Zanna (1969) also suggests the process described by Bem occurs. Subjects were induced to volunteer to convince a passer-by on a street corner in favor of anti-air pollution. An experimental confederate, paired with the subject, volunteered to argue for auto safety. For one group of subjects, the confederate said he would be glad to volunteer for the sake of science (belief-irrelevant condition). For the other group, the confederate said he believed strongly in auto safety (belief-relevant).
The results indicated that those subjects for whom belief had been made salient as a reason for volunteering reported stronger beliefs in anti-air pollution on a subsequent questionnaire than the belief-irrelevant subjects. The belief-relevant subjects appeared to have looked at their volunteering-action and asked themselves why they had volunteered. If the confederate had made belief salient to them as a reason for volunteering, the subjects inferred that that was why they had in fact volunteered. They then reported anti-air pollution attitudes.

Research on the attributional tendencies of observers and actors would seem to indicate a difference in bias between the two. In reviewing the literature, Jones and Nisbett (1971) conclude that the studies indicate the observer of a behavioral act is inclined to look at the behavior and its effects to learn something about the actor. On the other hand, the actor, while he looks at his behavior to learn of himself, also looks at the environment for clues about his behavior. The environment seems to play the greater role in the inference process of the actor, while the actor's behavior per se has the prominent place in the observer's considerations.

Heider (1958) made a similar distinction more than a decade ago. He discussed behavioral events, such as person X doing something to object or person Y, and analyzed how people go about determining whether the behavioral event is to be attributed to dispositional characteristics of the person behaving, or to properties of the environment, or to properties of both.
Heider suggested that, with a particular behavioral event, the actor and the observer might have attributional biases -- not attributing causes on the basis of logic alone. Further, they (the actor and the observer) did not have the same bias, but differed in their interpretation of a behavioral event. Heider states, "... an outsider viewing the situation of another, rests his case on attribution to the person, whereas the person, himself, holds to attribution to the object" (p. 156).

According to Heider, for the observer of a behavioral event, "It seems that behavior in particular has such salient properties it tends to engulf the total field rather than be confined to its proper position as a local stimulus whose interpretation requires the additional data of a surrounding field -- the situation in social perception" (p. 54). So, the observer tends to look at the behavior of the actor and attributes the cause of the behavior to some intention or dispositional property of the actor, ignoring properties of the environment or immediate situation that might have elicited the behavior from the actor, or from anyone else. The actor, on the other hand, tends to look for clues for his behavior in properties of the environmental or situational stimuli. And, as a result, he many times attributes his actions to something in the environment.

Jones and Nisbett (1971) give two broad reasons for the actor-observer attributional difference. The first is the difference in information available to the actor and the observer. The observer may be seeing the actor behave for the first time. He does not know how the actor has behaved toward this object before, or how he has behaved
towards other objects in other circumstances. The actor knows all these things and is enabled, from the informational standpoint, to make a more accurate attributional inference than his observer.

Jones and Nisbett illustrate the informational difference by pointing to Kelley's (1967) "analysis of variance" model of the attributor's inference process. Kelley presented a schema for people's naive causal inferences that resembles a scientist's analysis of variance. The attributor considers three kinds of information in his "variance cube": consensus information (do other people behave the same way towards this object), distinctiveness information (does the actor behave in the same way towards other objects or stimuli), and consistency information (does the actor behave in the same way towards the object in other situations, at other times). The actor, because of knowledge of his past history, can fill in more of these information cubes than the observer.

The other basic reason for the actor-observer discrepancy is due to a difference in perceptual orientation, which was hinted at above, after the discussion of correspondence theory and self-perception research. Jones and Nisbett (1971) state, "... different aspects of the available information are salient for actors and observers and this differential salience affects the course and outcome of the attribution process" (p. 85).

The actor, from his perceptual orientation, cannot observe his own behavior very carefully. His attention is trained on the environment, which gives him clues for an explanation of his past behavior and for the guidance of his subsequent behavior. For the observer
watching the behavioral event, obviously, the behavior, itself, is the most salient property of his environment. And, it is the actor who is doing the behaving. So, the observer's attention is trained on the actor, or the one committing the action.

A study by Storms (1973) illustrates this perceptual difference nicely. Four subjects were seated at a long, rectangular table. Two subjects at one end of the table were instructed to engage in a five-minute discussion with one another. Each of the other two subjects, sitting at the far end of the table, was to observe the person sitting diagonally across from him, one of the conversing subjects. So, each observer-subject was looking at a different actor-subject.

At the conclusion of the five-minute conversation, each of the four subjects was given a questionnaire, on which observers answered questions about their matched-actors and the actors answered questions about themselves. The questions were designed to determine where subjects placed the cause of the behavior in the conversation -- in personal characteristics of the actor or characteristics of the situation. Observer-subjects tended to select person-characteristics and actor-subjects, characteristics of the situation.

Then, the experimental manipulation was introduced. Some observers were shown video tapes of the actor talking, just as they had previously seen him (same-orientation). Some observers were shown video tapes of the other actor talking, whom they had not observed (different-orientation). The other actor would have been their actor's environment. Some actors saw a video-tape replay of their conversation-partner talking (same-orientation). Other actors saw a video replay
of themselves talking (different-orientation). Then, all subjects filled out the questionnaires again.

The "same-orientation" actors and observers continued to make the same attributions on the questionnaire that they had earlier. However, the "different-orientation" subjects reversed their attributions. These observers now inferred situational characteristics as the cause, while the re-oriented actors now indicated that personal characteristics were responsible.

By replicating earlier actor-observer differences, then reversing that difference through reversal of subjects' perceptual orientations, Storms has provided experimental support for the Jones and Nisbett hypothesis of actor-observer differences in perceptual orientation.

Gilson and Abelson (1965) and Kanouse (1971) implied that subjects' answers on the sentence-paradigm indicated the direction of a causal attribution made by an observer of a real behavioral event. If the subject affirmed an object-generalization statement, he thought specific characteristics of the actor caused the behavior, rather than specific characteristics of the recipient of the action. The readers of the Gilson and Abelson (1965) and Kanouse and Gross (1970) generalization questions can be thought of as observers of a behavioral event, if the paradigm is indeed an attribution one. The subjects' answers to the generalization questions and quantifier scales should reflect their attributional inference process, which they are assumed to be using when observing real-life situations.
Indeed, the subjects in the Gilson and Abelson experiment do respond to the generalization questions in the manner one would expect of observers of a behavioral act, based on the Jones and Nisbett actor-observer hypothesis. Their subjects tended to see the object (of the act) class as quite homogeneous or undifferentiated. They were relatively more willing to ignore specific properties of the object class as a cause of the act in favor of unique properties of the actor (they were less willing to generalize the subject class). The subjects were more willing to say the whole class of objects would be acted upon in the same way by that actor, than that the whole class of actors would commit the same act towards the particular object. This means they tended to believe more readily that some unique characteristic of the actor caused his action.

The Gilson and Abelson subjects used relatively low "implicit quantifiers" for both manifest and subjective verbs toward the object class. They required more evidence before they would "explain" an actor's act in intentional-terms (subjective verbs) than merely more general action-terms (manifest verbs). But, the subjects did not need many confirming instances of an actor's behavior towards members of an object class before they were willing to accept the unqualified generic assertion. The object class was therefore seen as relatively homogeneous, both in the generic-assertion questions and on the quantifier scale.

In the Kanouse and Gross study, subjects readily explain the actor's initial action in intentional terms, if they can expand the action from one object to the entire object class first (path 1 preferred over path 2). When they expand to the entire object class, and they do
this readily, the subjects generally answer the unqualified generic assertion in the affirmative. So, as the observer in the actor-observer hypothesis, these subjects see the environment as homogeneous and undifferentiated (and, indeed, need to), while they concentrate on the actor and explain the act in intentional terms.

If we could create a group of actor-subjects, subjects who viewed themselves as the one committing the act in the evidence statements and generalization questions, we would expect different results. We would predict from the actor-observer hypothesis that actor-subjects would see the object class, their environment, as less homogeneous and more differentiated than the observer-subjects. We would therefore expect that actor-subjects would less often accept a generalization to the object class on the basis of one positive instance of evidence than would observer-subjects. Further, actor-subjects should have higher thresholds for implicit quantifiers of objects (i.e. should require more evidence of their doing something to particular objects) to accept general statements about the object class.

In the Kanouse and Gross version of the paradigm, actor-subjects should be less willing than observer-subjects to select either path 1 or path 2, since path 1 requires generalization of the object class and path 2 requires explanation of the specific act in intentional terms. And, actor-subjects should be less willing than observer-subjects to affirm the final statement, that both explains their specific act in intentional terms and expands it to include a whole class of objects.

The purpose of this investigation is to test the validity of the generalization paradigm as an example of attributional processes by
determining whether it will reflect the differences in causal attribution of actors and observers. Modified forms of the three versions of the paradigm will be used. Actor-observer groups differences will be manipulated through the use of pre-questionnaire instructions.

Two sets of instructions will be employed to create observer-subjects. One set of instructions will be similar to the Gilson and Abelson or Kanouse and Gross instructions, merely telling the subjects to answer the generalization questions and to fill out the scale (neutral instructions). Other observer-subjects will receive additional instructions to pretend they are watching or reading about real behavioral events and answering questions based upon the events (observer instructions). The actor-subjects will be given instructions that emphasize they are to imagine they are the person "Bill" described in the items. They are to try to empathize will Bill and react to the questions and fill out the scales the way he would.

The predictions are summarized as follows:

1. Actors will be less willing than observers and neutrals to affirm a generalization from an action toward a particular object to the same action toward the class of objects of which the particular object is a member (object generalization).

2. Actors will be less willing than observers and neutrals to go from a statement about an overt action toward a particular object to an assertion about the actor's feelings toward the class of objects of which the particular object is a member.

3. Actors will be less willing than observers and neutrals to accept an intermediate inference connecting the initial statement
with the more general assertion in (2).

4. Actors should view the statements on the implicit quantifier scale as implying more objects, or instances of the actor doing something to particular objects, than will observers or neutrals, for both subjective and manifest verbs.

(Subj-class generalization questions based on subject-specific evidence forms, similar to those from the Gilson and Abelson study, will also be presented to subjects, however, no prediction about differences between actors and observers, or neutrals, is made.)

The following hypotheses are replications:

5. Within the observer- and neutral-groups, subjects will be less willing to affirm a generalization from one actor to a whole class of actors (subject generalization) than a generalization from one object to a class of objects (object generalization).

6. Within the observer- and neutral-groups, subjects will be less willing to explain an actor's overt action toward a particular object in intentional terms than to generalize the overt action toward the particular object to the object class, intermediate paths B and A, respectively.

7. Within the observer- and neutral-groups, subjects will be less willing to accept an assertion that both explains an actor's overt action in intentional terms and generalizes from the particular recipient of the action to the class of recipients if it is preceded by intermediate-path B than if it is preceded by intermediate-path A.

8. Within the observer- and neutral-groups, subjects should have higher thresholds (i.e. should require more evidence of an actor's
relation to particular objects) for subjective verbs than for manifest verbs.
METHOD

Subjects:
The subjects were 44 Wesleyan undergraduate students and one graduate student. Nineteen subjects were males and twenty-six, females. All but three subjects were recruited from two introductory psychology classes. Fifteen subjects were randomly assigned to each of the three experimental groups.

Materials:
Two questionnaires were constructed. The first contained 45 items and included nine items of each of five types.

Three types of items were modified from the intermediate-path items of Kanouse and Gross (1970). Kanouse and Gross used these types of items to determine which intermediate inference-path people would prefer in going from a simple evidence statement (someone doing something to a particular object) to a general dispositional statement about the person in relation to a whole class of objects, of which the particular object was a member. For example, in going from, "O destroys Reader's Digests," to, "O hates magazines," they were interested in whether respondents would select the intermediate inference, "O destroys magazines" (path A, which generalizes to the object class), or, "O hates Reader's Digests" (path B, which explains the action in intentional terms toward the particular object). The items were also constructed to discover how the intermediate-path choice affects people's acceptance or rejection of the final assertion.
All three types of intermediate-path item had an initial statement followed by one or two questions. The statement was a simple sentence: subject-verb-object. The subject, always "Bill," was presented as doing something to an object (manifest verb followed by particular object). For example: "Bill buys apples." For the first type, "intermediate-path-A items," the initial statement was followed by a question which asked whether "Bill" would do what he had done toward the particular object to the class of objects of which the particular object was a member (manifest verb followed by object class). For example: "Does Bill buy fruit?" This intermediate question was, in turn, succeeded by a final question. The final question inquired whether "Bill" had a certain subjective feeling (disposition) toward the class of objects of which the particular object was a member (subjective verb followed by object class). For example: "Does Bill want fruit?"

A complete intermediate-path-A type item looked like this:

Bill buys apples.

Does Bill buy fruit?

Does Bill want fruit?

The second type of item, "intermediate-path-B," followed up the initial statement of Bill doing something to an object with a different intermediate question -- whether Bill had a certain subjective feeling toward that particular object (subjective verb followed by particular object). For example: "Does Bill want apples?" The intermediate question was followed by the same final question as in path A -- whether Bill had a certain subjective feeling (disposition) toward the
class of objects (subjective verb followed by object class). For example: "Does Bill want fruit?" A complete intermediate-path-B type item looked like this:

Bill buys apples.

Does Bill want apples?

Does Bill want fruit?

The third type of item, "no-intermediate-path," had the same initial statement and final question, but did not include an intermediate question. An example of this "no-intermediate-path" item is:

Bill buys apples.

Does Bill want fruit?

This type of item was added to determine how subjects would respond to the final question when no inference-path was set up by an intermediate question.

For each item of the intermediate-path-A type, there was one corresponding path-B item and one no-intermediate-path item with identical initial statements and final questions. The nature of the intermediate path was the only difference between the three item-types elaborated above. Six of the manifest verbs used in the items denoted a positive action toward the object, or object class (e.g. reads, plays, buys). Three denoted a negative action (throws away, tears up, destroys). Three subjective verbs were used for the intermediate-path items, two denoting a positive feeling (likes, wants) and one denoting a negative feeling (hates).

The object- and subject-generalization items were made to resemble those of Gilson and Abelson (1965). Items of the object-
generalization type contained three evidence statements, or assertions, followed by a question based upon those statements. One evidence statement described "Bill" doing something to a particular object. The other two statements indicated that Bill did not do the same thing toward two other objects, which were of the same class as the above object. The question asked whether Bill commits the particular action toward the whole class of objects. An example of an object-generalization item is:

Bill doesn't watch western films.
Bill watches crime films.
Bill doesn't watch comedy films.

Does Bill watch films?

An affirmative answer to the question by the respondent indicated a willingness to generalize an action by Bill, from one positive instance of evidence, to a whole class of objects. Nine positive manifest verbs and nine different object classes made up the nine object-generalization items.

The same nine verbs as well as objects from the same nine object classes were used in the construction of the nine subject-generalization items. Subject-generalization items began by stating that three people -- John, George, and Bill -- belonged to the same subject class, or group. The groups included nationalities, professions, age groups, etc. For example: "John, George, and Bill are Democrats."

Then, as in the object-generalization items, three statements appeared in an item. One statement indicated that Bill did something toward an object. The other two statements indicated that George and
John did not do what Bill did toward the object. The question asked if the group, or subject class, did what Bill did toward that object. An example of a subject-generalization item is:

John, George, and Bill are Democrats.
Bill goes to baseball games.
John doesn't go to baseball games.
George doesn't go to baseball games.

Do Democrats go to baseball games?

An affirmative answer to the question by the respondent indicated a willingness to generalize from a positive assertion about one member of a group to a positive assertion about the entire group.

For both object- and subject-generalization items, the order of positive and negative instances (instances of someone doing or not doing something, respectively) was counter-balanced over items. The ordering of Bill, George, and John as members of a group was also counter-balanced over subject-generalization items.

For all five types of items on the first questionnaire, a balance was maintained between those evidence statements wherein the class name, from which the particular object came, was included and those evidence statements where it was not included. For example, in the item: "Bill destroys American flags. Does Bill hate flags?," the class name was included within the statement, as well as the question based upon the statement. But, in the item: "Bill builds chairs. Does Bill like furniture?," the class name was not within the statement.

To recapitulate, in the first questionnaire, there were 45 items, which included nine items of each of five types: intermediate-path-A, intermediate-path-B, no-intermediate-path, object-generalization, and
subject-generalization. The composition of the first questionnaire can be broken down into nine blocks of items. Each block had five items, corresponding to a representative of each of the five types of items just elaborated. The five items were randomly arranged within a block. Each particular item was to be used only once and was randomly selected for block placement from the nine items of its type.

The second questionnaire dealt with implicit quantifiers and was similar to that used by Gilson and Abelson (1965). It consisted of ten simple (subject-verb-object) sentences, each with a scale inserted between the verb and the object of the sentence. An example of an implicit quantifier scale item is:

```
Bill wants __________ __________ __________ __________ __________
   All
   Most
   Many
   Some
   A few
   One or two
```

to pictures

The contents of all ten sentences were selected from among the intermediate-path type items of the first questionnaire. "Bill" was the subject of all ten sentences. The five objects were five object-class names. Five verbs were manifest and five subjective. There were five pairs of sentences, with the two sentences of each pair sharing the same subject and object. One sentence of the pair had a manifest verb, the other a corresponding subjective verb. Three of the manifest verbs, with their corresponding subjective verbs, were positive, while the other two manifest verbs and two subjective verbs were negative.

**Procedure:**

Students in the two introductory psychology classes were asked
to volunteer for a study examining language and how it is used to describe situations. They were told that they would be filling out a couple of questionnaires and were asked to sign up for one of twelve, one-hour sessions, spread over three days.

Upon their arrival at an experimental session, subjects were seated and told to wait until all those signed up for that hour's session had arrived. Usually there were about six subjects per session. When all those expected had arrived, the experimenter read aloud some general instructions, before handing out the questionnaires, briefly describing what they would be required to do.

Copies of the first questionnaire were handed out to subjects on a random basis, with care taken that an equal number of subjects in each session were included in each of three experimental conditions: actor, observer, and neutral. Subjects were separated into the three experimental conditions solely through the instructions they read on the cover sheet of the questionnaire.

The core instructions that all experimental groups received emphasized that the questionnaire was not a test of logical-reasoning ability. Subjects were told there were no right or wrong answers, that they were to answer according to what seemed most reasonable to them intuitively.

The instructions also repeatedly reminded subjects to consider a particular item only on the basis of the information given in that item. The attempt here was to minimize differences in informational history between experimental groups. Actor-subjects were not to have a greater informational history about "Bill" than observers or neutrals.
It was hoped that only a difference in perspective would be created between actor-subjects, on the one side, and observers and neutrals, on the other.

All subjects were told in the instructions that only an answer of "yes" or "no" would be acceptable (no "maybes") to indicate that they agreed or did not agree with the assertions contained within the questions. The intention was that subjects should understand that a "no" answer did not mean the assertion embodied in the question was definitely a falsehood, only that it was not substantiated from the evidence statements presented.

Neutral-condition subjects read instructions analogous to those used in the Gilson and Abelson (1965) and the Kanouse and Gross (1970) studies. These subjects were expected to react as observers of a behavioral event would. Their instructions were also the core instructions received by all subjects in this study. The neutral-group instructions are given below, for the first questionnaire:

"This questionnaire contains 45 items. Each item is composed of a statement or a set of statements followed by one or two questions. Read the statements carefully and then decide whether you agree or do not agree with the assertion in the question(s). The answer you choose should depend solely on the information given in the statements for the particular item. If you tend to agree with the assertion in the question, answer 'yes' in the blank provided. If you tend not to agree, answer 'no.' If you are uncertain, try to determine if you tend more to agree or to not agree with the assertion in the question. You must respond with either 'yes' or 'no' to each question."
"Do not look back to answers from previous items or look ahead to those you have not yet completed.

"Do not spend too much time on any one item. Work quickly and answer the question according to what seems most reasonable to you, on the basis of your first impression. These items are not a test of logic, even though their content may seem strange or artificial. There are no right or wrong answers. Please answer every question."

Observer-condition subjects received the core instructions, plus additional specific instructions, asking them to imagine they were watching a behavioral event. Below are the additional instructions for the observer-group:

"For each item, imagine that you are watching the situation described. Imagine that you are not one of the people in the situation described, but an observer. Pretend you don't know anything about the situation in the item other than what you have learned from the statements included in that item. React to the question(s) the way an observer would."

Actor-condition subjects received the core instructions, plus additional specific instructions, asking them to imagine they were the person "Bill" in the items. These subjects were to look at the information and questions as the one who was acting. Below are the additional instructions given the actor-group for the first questionnaire:

"One of the issues we are investigating in our research is the nature of empathy. Therefore, when you are answering these questions, we would like you to imagine that you are the person referred to as "Bill" in the statements and questions. Try to put yourself in
his role and perceive the world as Bill would in each particular situation indicated by that item. Imagine that you don't know anything about yourself other than what you have learned from the statements included in that item. React to the question the way you think Bill would.

"Remember, you want to answer as if you were Bill."

During the experimental session, subjects were to raise their hands when they had completed the first questionnaire. The first questionnaire was then picked up, and the implicit quantifier questionnaire was given to the subject, with the instructions for his experimental group (actor, observer, neutral).

The attached instructions indicated that subjects were to select, through the use of the inserted scales, the minimal appropriate number of single objects that could be read into each sentence without changing the meaning of the unqualified generic assertion the sentence was making. An example was presented in the instructions: "Bill wants pictures." The subject was told to indicate the minimum amount of evidence (number of objects) he felt would justify the assertion the statement was making. He could check on the scale "all," "most," "many," "some," "a few," "one or two" pictures.

Subjects were again reminded that this was not a test of logic and that they were to consider each item only on the basis of the information provided there.

All subjects received these "core" instructions. The core instructions were all that the neutral-group received for the second questionnaire. As with the first questionnaire, actor- and observer-
group subjects received additional instructions. Actor-subjects were again told to imagine they were the person "Bill" in the sentences and to respond the way in which Bill would. Observers were instructed to respond as they would if they were watching a behavioral event taking place.

Given below are the attached instructions for the second questionnaire, with the "actor" and "observer" inserts indicated:

"This questionnaire contains 10 items. Each item consists of a simple sentence and a 'scale' placed between the verb and the object. The scale lets you choose the number of objects. Please put a check next to the alternative on the scale which represents the minimum amount of evidence (number of objects) you feel would justify the assertion the statement is making.

"Here is an example:

Bill wants ______ All

pictures

- Most
- Many
- Some
- A Few
- One or two

"You would check the least number of pictures implied by the statement 'Bill wants pictures.'"

(Actors only)

"Again, imagine you are the person 'Bill,' who is the subject of each sentence. When considering a sentence, imagine that you don't know anything about yourself apart from the information given in that sentence. Try to look at the world the way you think Bill would. Remember, you want to answer as if you were Bill and in the way he would respond."
(Observers only)

"Again, imagine you are watching the situation described. Pretend you don't know anything about the situation in an item apart from the information given in that sentence. React to the sentence the way an observer would."

(All subjects)

"Do not spend too much time on any one item. Work quickly and answer the questions according to what seems most reasonable to you. These items are not a test of logic, even though their content may seem strange or artificial."

At the conclusion of each session, after all subjects for that session had completed both questionnaires, subjects were paid $2 apiece and debriefed.
RESULTS

The "yes" and "no" responses in the 45-item questionnaire were scored as 1 and 0, respectively. Implicit quantifier scale responses were scored from 1 to 6, corresponding to the scale options: "one or two" through "all."

The items of both questionnaires were divided up according to types: intermediate-path questions, object-generalization questions, subject-generalization questions, and subjective-manifest verbs on the implicit quantifier scale. Intermediate-path questions were further divided into: path-A final questions, path-B final questions, the no-intermediate-path final questions, intermediate-path-A questions, and intermediate-path-B questions. A subject's scores were totalled for each type of question, with separate sums calculated for the positive- and negative-verb questions.

The mean scores for subjects within each of the three conditions were calculated for each type of question. Separate means were calculated for positive- and negative-verb questions within each type.

Intermediate Path Paradigm

Final questions of intermediate-path items:

A two-way repeated measures analysis of variance (3 experimental groups X 3 final-question types) was performed on the data. Since an inspection of the data revealed no large or consistent differences based on sex or college class, these variables were not included in this or any subsequent analysis.
Table 1 (p. 36) shows the three groups' mean scores, with standard deviations, on each of the three different final questions, for positive-verb items. There was no significant difference between actor-, observer-, or neutral-groups in responding to the three different final questions (F=1.09, df=2,42, N.S.).

The proportion of affirmative responses between final-question types also did not differ significantly (F=1.37, df=2,84, N.S.). However, the table indicates that the means did differ in the predicted direction, with more affirmative responses to intermediate-path-A final questions than to intermediate-path-B final questions. The final question not preceded by an intermediate inference path was affirmed less often than final-question A, but more often than the intermediate-path-B final question. The conditions X final-question-type interaction was not significant.

Table 2 (p. 37) shows the three groups' mean scores, with standard deviations, on each of the three different final questions, for negative-verb items. No significant differences were found between groups or between final-question types (F=.90, df=2,42, N.S.; F=2.10, df=2,84, N.S.; for groups and item-types, respectively). The conditions X final-question-type interaction was not significant.

Intermediate-path questions:

A two-way repeated measures analysis of variance (3 experimental groups X 2 intermediate-path-question types) was performed on the data.

Table 3 (p. 38) shows the three groups' mean scores, with standard deviations, on each of the two intermediate-path-question
TABLE 1

NUMBER OF "YES" RESPONSES TO THE FINAL QUESTIONS OF THE INTERMEDIATE-PATH ITEMS: POSITIVE VERBS

<table>
<thead>
<tr>
<th></th>
<th>Final Question (Path A)</th>
<th>Final Question (Path B)</th>
<th>Final Question (Path C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{x}$</td>
<td>S.D.</td>
<td>$\bar{x}$</td>
</tr>
<tr>
<td>Actor</td>
<td>4.60</td>
<td>1.81</td>
<td>4.33</td>
</tr>
<tr>
<td>Observer</td>
<td>4.73</td>
<td>1.14</td>
<td>4.67</td>
</tr>
<tr>
<td>Neutral</td>
<td>5.33</td>
<td>1.09</td>
<td>5.13</td>
</tr>
</tbody>
</table>
### Table 2

**Number of "Yes" Responses to the Final Questions of the Intermediate-Path Items: Negative Verbs**

<table>
<thead>
<tr>
<th>Final Question (Path A)</th>
<th>Final Question (Path B)</th>
<th>Final Question (Path 0)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actor</strong></td>
<td><strong>Observer</strong></td>
<td><strong>Neutral</strong></td>
</tr>
<tr>
<td>$\bar{X}$</td>
<td>$\bar{X}$</td>
<td>$\bar{X}$</td>
</tr>
<tr>
<td>$.87$</td>
<td>$.66$</td>
<td>$.73$</td>
</tr>
<tr>
<td>$.95$</td>
<td>$1.01$</td>
<td>$1.00$</td>
</tr>
<tr>
<td>$.33$</td>
<td>$.20$</td>
<td>$.40$</td>
</tr>
<tr>
<td>$.70$</td>
<td>$.53$</td>
<td>$.80$</td>
</tr>
<tr>
<td>$.53$</td>
<td>$.47$</td>
<td>$.47$</td>
</tr>
<tr>
<td>$1.02$</td>
<td>$1.02$</td>
<td>$1.02$</td>
</tr>
</tbody>
</table>
TABLE 3

NUMBER OF "YES" RESPONSES TO THE INTERMEDIATE PATHS:

POSITIVE VERBS

<table>
<thead>
<tr>
<th></th>
<th>Path A</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>S.D.</td>
<td>$\bar{X}$</td>
</tr>
<tr>
<td>Actor</td>
<td>5.53</td>
<td>.83</td>
<td>4.87</td>
</tr>
<tr>
<td>Observer</td>
<td>5.87</td>
<td>.26</td>
<td>5.20</td>
</tr>
<tr>
<td>Neutral</td>
<td>5.93</td>
<td>.33</td>
<td>5.47</td>
</tr>
</tbody>
</table>
types, path A and path B, for positive-verb items. No significant
difference was found between the actor-, observer-, or neutral groups
in responding to the two different intermediate-path questions (F=2.41,
df=2,42, N.S.).

The number of affirmative responses to intermediate-path-
question A, however, differed significantly from the number for
intermediate-path-question B (F=9.42, df=1,42, p<.005). Subjects
more often generalized the overt action to the object class (Path A)
than they "explained" the overt action toward the particular object
(Path B). Post hoc t-tests were performed within each of the experi-
mental groups. For two of the three experimental groups, marginally
significant differences in the mean scores for path-A questions and
path-B questions were found (t=1.89, for actors, p<.10; t=1.91 for
observers, p<.10). Within the neutral group, the two mean scores
differed in the predicted direction -- more affirmative responses to
intermediate-path A -- but not significantly (t=1.31, p>.10). The
conditions X intermediate-questions interaction was not significant.

Table 4 (p. 40) shows the three groups' mean scores, with
standard deviations, on each of the two different intermediate-path-
question types (F=.70, df=2,42, N.S.; F=2.67, df=1,42, N.S.; for the
groups and item-types, respectively). The conditions X intermediate-
questions interaction was not significant.

Object- and Subject-Generalization Questions

A two-way repeated measures analysis of variance (3 experimental
groups X 2 generalization-question types) was performed on the data.
TABLE 4
NUMBER OF "YES" RESPONSES TO THE INTERMEDIATE PATHS:
NEGATIVE VERBS

<table>
<thead>
<tr>
<th></th>
<th>Path A</th>
<th></th>
<th></th>
<th>Path B</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{x} )</td>
<td>S.D.</td>
<td></td>
<td>( \bar{x} )</td>
<td>S.D.</td>
</tr>
<tr>
<td>Actor</td>
<td>2.80</td>
<td>.53</td>
<td></td>
<td>2.57</td>
<td>.68</td>
</tr>
<tr>
<td>Observer</td>
<td>2.60</td>
<td>.60</td>
<td></td>
<td>2.33</td>
<td>1.01</td>
</tr>
<tr>
<td>Neutral</td>
<td>2.80</td>
<td>.53</td>
<td></td>
<td>2.53</td>
<td>.81</td>
</tr>
</tbody>
</table>
In the calculation of the two-way analysis of variance, scores for all items were combined.

Table 5 (p. 42) shows the three groups' mean scores, with standard deviations, on each of the two types: object- and subject-generalization questions. There was no significant difference between groups in responding to the object- and subject-generalization items ($F=1.14$, $df=2,42$, N.S.).

However, subjects responded in the affirmative significantly more often to object-generalization questions than to subject-generalization questions ($F=28.86$, $df=1,42$, $p<.001$), suggesting they saw the object class as more homogeneous than the subject class. Within all three experimental groups, the difference on the post hoc t-tests between the mean scores on object- and subject-generalization questions was either significant or marginally significant ($t=1.86$ for actors, $p<.10$; $t=3.38$ for observers, $p<.005$; $t=3.38$ for neutrals, $p<.005$).

The conditions $X$ object-subject-generalization-questions interaction was not significant.

Responses to all items were also examined for order effects. No order effects were found for any of the three experimental groups. Responses to the object-generalization questions were examined to determine whether those items with the object-class name mentioned in the evidence statements received a greater proportion of "yes" responses than those items where it was not included. The proportion of affirmative responses was almost identical for both types of items and for all three experimental groups.
TABLE 5
NUMBER OF "YES" RESPONSES TO THE GENERALIZATION QUESTIONS

<table>
<thead>
<tr>
<th>Actor</th>
<th>Subject Generalization</th>
<th>Observer</th>
<th>Subject Generalization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>S.D.</td>
<td>$\bar{X}$</td>
</tr>
<tr>
<td>Actor</td>
<td>8.40</td>
<td>1.99</td>
<td>6.93</td>
</tr>
<tr>
<td>Observer</td>
<td>8.40</td>
<td>3.05</td>
<td>5.80</td>
</tr>
<tr>
<td>Neutral</td>
<td>8.93</td>
<td>0.36</td>
<td>6.33</td>
</tr>
</tbody>
</table>
Implicit Quantifier Scale

A two-way repeated measures analysis of variance (3 experimental groups X 2 verb types -- subjective and manifest) was performed on the data. In the calculation of the two-way analysis of variance, scores for both positive and negative verbs were combined.

Table 6 (p. 44) displays the three groups' mean item scores, with standard deviations, on each of the two item-types: subjective-verb items and manifest-verb items. There was no significant between-groups difference in responding to these items ($F = .038$, df = 2,42, N.S.).

There was, however, a significant difference in scale scores for subjective-verb sentences and manifest-verb sentences ($F = 11.38$, df = 1,42, $p < .005$). Subjects viewed dispositional statements about Bill, employing subjective verbs, as implying more particular objects or instances than an overt action by Bill. This difference in mean scale scores between subjective- and manifest-verb items held within each experimental group, on post hoc t-tests. But, it only reached significance levels in two of the three groups ($t = 1.07$ for actors, N.S.; $t = 2.95$ for observers, $p < .02$; $t = 1.82$ for neutrals, $p < .10$). The conditions X subjective-manifest-verbs interaction was not significant.

In summary, then, the actor, observer, and neutral groups differed very little from one another in their responses on the two questionnaires. Within the observer and neutral groups and across groups, however, the earlier results of the Gilson and Abelson (1965) study were replicated (object–subject–generalizations, subjective and manifest verbs on the implicit quantifier scale). Within the actor group, the results were in the predicted direction but insignificant.
**TABLE 6**

**MEAN ITEM SCORE ON THE IMPLICIT QUANTIFIER SCALE**

<table>
<thead>
<tr>
<th>Subjective Verbs</th>
<th>Manifest Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>( \bar{X} )</td>
<td>( \bar{X} )</td>
</tr>
<tr>
<td>( \text{S.D.} )</td>
<td>( \text{S.D.} )</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Actor</td>
<td></td>
</tr>
<tr>
<td>2.73</td>
<td>2.55</td>
</tr>
<tr>
<td>.73</td>
<td>.67</td>
</tr>
<tr>
<td>Observer</td>
<td></td>
</tr>
<tr>
<td>2.99</td>
<td>2.47</td>
</tr>
<tr>
<td>1.11</td>
<td>.95</td>
</tr>
<tr>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>2.87</td>
<td>2.55</td>
</tr>
<tr>
<td>1.18</td>
<td>.89</td>
</tr>
</tbody>
</table>
(manifest-subjective verbs) or marginally significant (object-subject generalization). Subjects made fewer "yes" responses to subject-generalization items than to object-generalization items. Subjects had significantly higher implicit quantifiers for subjective verbs over manifest verbs. The earlier results of the Kanouse and Gross study were replicated in part. Subjects made fewer "yes" responses to intermediate-path-B items than to intermediate-path-A items. Within the actor and observer groups and across groups, differences in response to intermediate-paths A and B were significant, and in the predicted direction within the neutral group, though insignificant. Differences in response to the various final-question types of the intermediate-path items were insignificant, though in the predicted direction.
DISCUSSION

It is clear from the results that the difference in response to subject-generalization items and object-generalization items found by Gilson and Abelson (1965) was replicated in the present study. Subjects appeared to see the actors as less homogeneous to other actors (subject generalization) than they viewed objects as interchangeable with other objects, or recipients of the action (object generalization).

Kanouse (1971) presents three possible explanations of subjects' preference for object generalization over subject generalization. The first is a grammatical one -- that the subject of a sentence is viewed differently than the object of a sentence. Kanouse (1971) indicates that research by himself and his associates, using passive-verb sentences, disconfirmed this first explanation. The second explanation is that objects per se are seen as relatively less differentiated from one another than are people, and therefore objects would be more easily generalized than people. Since the paradigm used in the research utilized statements and questions with people as the actors, or subjects of the sentences, and objects as the recipients of the action (or objects of the sentences), greater object generalization over subject generalization would be expected. The remaining explanation is that people answering the questionnaire items regard actors as more unique than recipients of the action, whether the recipient is an object or another person. Kanouse (1971) states, and we have noted elsewhere,
that this explanation is similar to the observer's attributional bias described in the "actor-observer" hypothesis of Jones and Nisbett (1971). Kanouse makes no attempt to decide between the two latter explanations for subjects' greater affirmation of object-generalization over subject-generalization assertions. To the knowledge of the present author, no data have been collected to determine whether one, or the other, or both explanations are the correct ones.

The results of the present study revealed a greater difference in the proportions of affirmative responses to object- and subject-generalization questions, for each of the three experimental groups, than that found by Gilson and Abelson (1965). Subjects in the Gilson and Abelson study responded in the affirmative 62% of the time to subject-generalization questions and 71% for object-generalization questions (for items using positive, manifest verbs). In the present study, the neutral group, the group which received instructions most similar to the instructions used by Gilson and Abelson, responded in the affirmative 70% of the time to subject-generalization questions and 99% to object-generalization questions (all the generalization questions used positive, manifest verbs). The following proportions of affirmation were found to subject- and object-generalization questions, respectively, for the other two experimental groups: actor group - 77% and 93%, and observer group - 64% and 93%.

The greater difference in response to object- and subject-generalization questions found in the present study may be attributed
to the more "true-to-life" aspect of the items used for the present study. The items of the present study described more realistic kinds of behavioral events than those employed by Gilson and Abelson. If the Gilson and Abelson paradigm reflects attributional inferences about behavioral events, one would expect to see the differences apparent there magnified on items that more closely approximate real behavioral events, such as in the present study.

The results from the implicit quantifier scale of the present study suggest, as do those of Gilson and Abelson (1965), that people regard statements employing subjective verbs as implying a more general assertion about an actor than those with manifest, or overt-action, verbs. One would require more evidence of Bill's relation to particular flags to say, "Bill hates flags," than to say, "Bill destroys flags." The differences in mean item scores for subjective and manifest verbs in the present study were again similar in magnitude to the difference found by Gilson and Abelson for the subjective verbs (their mean item score -- 2.73) and the manifest verbs (their mean item score -- 2.29). Here the difference for the neutral group was 2.87 to 2.55. For the actor group, it was 2.73 to 2.55, and, for the observer group, it was 2.99 to 2.47. Not only were the differences of the present study similar in magnitude to those found on the Gilson and Abelson implicit quantifier scale, but the absolute values of the

---

¹This mean item score was derived from the items using the subjective verb "like," which was the only subjective verb from the Gilson and Abelson study that described feelings similar to those described by the subjective verbs used in the present study -- "like," "want," and "hate."
mean item scores for subjective verbs and manifest verbs were also similar. For both subjective and manifest verbs, the mean item score was greater than two but less than three. The average lay close to 2.5, which denotes a quantifier somewhere between "a few" to "some" of the scale options. Regardless of the type of verb or object class used, then, subjects read rather low implicit quantifiers into the unqualified assertions about an object class. Relatively few instances of Bill's relation with particular objects were required to justify the unqualified assertion. Had a scale been used to quantify the subject class, as it was in the Gilson and Abelson study, a higher average implicit quantifier would probably have been found for the subject class than for the object class, since subject generalizations are made less frequently than object generalizations.

The results on the intermediate-path items of the present study were in the same direction as those of Kanouse and Gross (1970), but did not always reach significance levels. The neutral group, which should have most nearly represented the Kanouse and Gross subjects, failed to show a significant difference in response to intermediate-paths A and B. Subjects of the present study also did not respond in the affirmative significantly more often to final questions following intermediate-path A than to final questions preceded by intermediate-path B.

A difference in procedure between the two experiments may account for the results. Subjects in the Kanouse and Gross (1970) study received only one type of item, either path-A or path-B. Subjects of the present study received a questionnaire containing both types of
items, path-A and path-B. Each pair of the path-A and path-B type items shared the same initial statement and final question, differing only in the intermediate question. Therefore, when the subject in the present study saw an item that greatly resembled an earlier one, he may have responded as he remembered responding before. The subject of the Kanouse and Gross study would have been less apt to encounter an item so nearly resembling an earlier item. This explanation may account for the weaker differences in response to paths A and B, and to the final questions, found in the present study. The no-intermediate-path items, each of which also shared the same initial statement and final question with a path-A-path-B pair, did not receive significantly different responses to the final question, further reinforcing the explanation just given.

Despite the failure to attain significance levels in some cases, the results of the present study largely replicated those of the two earlier studies (Gilson & Abelson, 1965; Kanouse & Gross, 1970), both for all subjects and within groups. However, the predicted between-groups differences largely failed to appear. A polarity in response was predicted, with the actor group, on the one side, accepting significantly fewer general assertions and producing significantly higher implicit quantifiers than neutrals and observers, on the other side. What resulted, instead, was a generally inconsistent and insignificant difference in responding between groups. As predicted, the actor group made fewer affirmative responses to object-generalization questions and intermediate-path-item questions than neutrals. But the
difference was always insignificant and, on the implicit quantifier scale, the predicted differences between actors and neutrals failed to appear. The observer group was either slightly closer to the neutral group in responding (path-A and path-B intermediate questions, subjective verbs), or slightly closer to the actor group in responding (object generalization, final questions of intermediate-path items, and manifest verbs), and generally more or less between the actor and neutral groups in response tendency.

There exist at least three plausible possibilities as to why the predicted differences between actor, observer, and neutral groups failed to occur. The first expands upon the possibly conflicting explanations given of people's preference for object-generalization over subject-generalization assertions (Kanouse, 1971) discussed above. One explanation (actor-object) was that the actors, as people, were seen as less interchangeable than the non-human objects. The other explanation (actor-recipient of the action) was that the actor was regarded as more unique than that acted upon, whether that acted upon was a person or a thing. Kanouse equated the "actor-recipient of the action" explanation to the observer's attributional bias described in the "actor-observer" hypothesis of Jones and Nisbett. If the former is the exclusively true explanation, i.e., if people see themselves and other people as being more unique than various objects, then no between-groups difference could be anticipated in this or any other study. If the former explanation is exclusively true, then the actor, as well as his observer, would see himself as more unique than the objects of his environment. He would place his attribution for the
cause of his action in unique characteristics of himself rather than in a non-human environment. The actor's own unique characteristics or dispositions would be the most salient aspect to him, as well as to the observer of his action. In the present study, indeed, actor-group subjects, as well as observer- and neutral-group subjects, preferred the object-generalization assertions over the subject-generalization assertions, to a statistically significant degree. They regarded Bill, or themselves, as more unique than the objects Bill acted upon.

We could test this possibility by having Bill act upon other people. If the actor group, as well as the observers and neutrals, now affirms the subject class equally as often as the object class (with people), support would exist for the actor-object explanation as a replacement for the actor-observer hypothesis (actor-recipient of the action explanation).

The second reason or possibility for the failure to obtain a between-groups effect may be that the paradigm of Gilson and Abelson (1965) and Kanouse and Gross (1970) reflects merely a linguistic phenomenon and not an attribution phenomenon. Perhaps a preference for generalizing the recipient of the action over the committer of the action, for different "implicit quantifiers," or for one sentence-path over another is due to language habits. If this assumption is correct, these language habits would reflect a person's attribution about real-life events only to the extent that the attribution process is shaped by the language people use, but the attribution process would
not be reflected directly in the language paradigm.

The actor, observer, and neutral groups behaved similarly, even though these groups received instructions that should have made them regard the information provided in very different ways. That these groups did not behave differently in the present study suggests that the results may demonstrate nothing more than linguistic habits (unless the actor-object explanation, above, is exclusively true).

Further evidence that this paradigm reflects only linguistic habits comes from the comments of the subjects, themselves. Many indicated that they were responding on the basis of the logic of the sentence structure, alone; that they could not consider these sentences, or their decisions about them, as dealing with real events. For instance, "Bill buys Saturday Review magazines" logically meant to subjects, "Bill buys magazines." And, "Bill buys Saturday Review magazines" also meant, "Bill buys some magazines." But, for these subjects, "Bill buys magazines," because it merely translated, "Bill buys some magazines," did not indicate a more general assertion about Bill than "Bill buys Saturday Review magazines." If "Bill buys Saturday Review magazines" did not imply something more general about Bill to the subjects, and if "Bill buys magazines" did not mean anything other, logically and linguistically, than "Bill buys Saturday Review magazines," then subjects were not really generalizing from one kind of magazine to all magazines. Subjects' affirmations of the assertion, "Bill buys magazines" from, "Bill buys Saturday Review magazines" certainly does not indicate that they saw Saturday Review as homogeneous with, or undifferentiated from, other kinds of magazines,
and such an indication would be necessary in order to state the paradigm reflects an attribution phenomenon or bias. "Bill buys magazines" appears to be only a linguistic translation of "Bill buys some magazines," with "some magazines" a translation for "Saturday Review magazines." No attribution of a more general behavior pattern to Bill is implied.

Though the between-groups differences in responding were insignificant, the neutral group accepted, with the exception of the implicit quantifier scale and the subjective-generalization questions, the generalizations more often than observers or actors. This result also lends support to the explanation that the Gilson and Abelson and Kanouse and Gross paradigm reflects only linguistic habits. The neutral group received instructions similar to those of the Gilson and Abelson and Kanouse and Gross studies. The actor and observer groups, however, received somewhat different instructions, orienting them to regard the items as descriptions of real behavioral events. Therefore, actor and observer groups were "reality-oriented" and stood apart somewhat from the neutral group, which may have been only "linguistically-oriented." Neutral-group subjects may have regarded their task solely as one of language interpretation. Actor and observer subjects could have viewed the task as one of language interpretation, but also as some sort of real situational problem.

A third possible explanation of the insignificant differences in responding between groups is that the instructions were insufficient to create a real actor-orientation. If the paradigm does what Gilson and Abelson or Kanouse and Gross imply -- that subjects' answers to the generalization questions and implicit quantifier scale items
reflect the subjects' inferences as to the cause of an action by another person, then readers of the sentences should behave as an observer making a causal attribution, even without the special observer instructions given in the present study. But, perhaps, the instructions for actors, in the present study, were not potent enough to make those subjects react to the information as if it were really about themselves doing something.

Perhaps, the actor-group subjects were looking at Bill as observers, too. The instructions told them to react to the questions and informational sentences as Bill would. The instructions may have focused their attention upon finding out more about Bill as a person. In using the information provided about Bill to find out what sort of person he was, subjects may have been forced to view him as an entity to be diagnosed -- outside of themselves. The actor subjects would then, also, be essentially observers of Bill, with their attention focused on Bill and not upon Bill's environment. They would see their task as making dispositional inferences about Bill.

Even if the actor-group subjects were successful in imagining they were Bill, they did not actually commit the actions described. They did not really look out at the environment away from themselves, as a person actually doing something would. A complete perceptual re-orientation of the actor group was necessary. As elaborated in the introduction, the actor-observer difference in causal attribution depends upon two basic differences between actors and observers -- perceptual orientation and informational history (Jones and Nisbett, 1971). The perceptual difference between actors and observers is the
difference in their visual fields during the behavioral event. The actor-subjects may have had the same visual, or perceptual, field as the observer-subjects in this study; both groups were looking at the same sentences. The intended perceptual re-orientation of the actor-subjects was not complete because, without actually committing the action performed by Bill, they could not share his visual experience at the time of the action (unless some video-tape device had been employed, as in the Storms (1973) study).

Actors and observers also differ in informational history. The actors have knowledge of their past actions toward the object which the observer sees and other objects, while the observer partially or completely lacks this information. In the present study, differences in informational history between the groups were minimized by trying to compel subjects to respond to each item separately -- only the information provided in the particular item was to be considered. And, actor-subjects were to react as if they were the person "Bill," not themselves, with their own past behavioral history available to them.

The attempt in the present study was to create some sort of perceptual difference between actor-subjects, on the one side, and observers and neutrals, on the other, without bringing in the second basic determinate of the actor-observer difference in causal attribution -- informational history. As discussed above, the attempt at creating a perceptual difference was probably not successful. Furthermore, differences in perceptual orientation and informational history
may have to be combined to create the actor-observer difference in causal attribution.

The three basic reasons given here for the failure to obtain significant differences between groups need not be mutually exclusive. Despite the uncertainty as to what caused the failure to create actor-observer differences through use of the present paradigm, considerable doubt is shed on the validity of the paradigm as an indicator of attributional processes. As discussed above, there exists enough evidence from the present study to suggest that the paradigm may be primarily an indicator of linguistic habits and not an indicator of implicit causal hypotheses and assumptions. Furthermore, the difficulty in creating different experimental groups through written instructions points to the limited range of applicability of the paradigm for attributional research.
BIBLIOGRAPHY


APPENDIX A

**TABLE A-1**

ANALYSIS OF VARIANCE:
FINAL QUESTIONS OF THE INTERMEDIATE-PATH ITEMS:
POSITIVE VERBS

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NEGATIVE VERBS

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TABLE A-3
ANALYSIS OF VARIANCE:
INTERMEDIATE-PATH QUESTIONS: POSITIVE VERBS

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INTERMEDIATE-PATH QUESTIONS: NEGATIVE VERBS

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OBJECT- AND SUBJECT-GENERALIZATION QUESTIONS

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APPENDIX B

Questionnaire 1

1. Bill plays folk-music records.
   Does Bill like folk-music records? 
   Does Bill like records? 

2. Bill destroys American flags.
   Does Bill destroy flags? 
   Does Bill hate flags? 

3. Bill doesn't eat oranges.
   Bill eats apples.
   Bill doesn't eat peaches.
   Does Bill eat fruit? 

4. Bill, John and George are teenagers.
   George doesn't throw footballs.
   Bill throws footballs.
   John doesn't throw footballs.
   Do teenagers throw footballs? 

5. Bill reads James Joyce novels.
   Does Bill like novels? 

6. George, Bill and John are Italians.
   George doesn't fix sports cars.
   Bill fixes sports cars.
   John doesn't fix sports cars.
   Do Italians fix sports cars? 

7. Bill throws away chocolate bars.
   Does Bill hate candy? 

8. Bill participates in chess contests.
   Bill doesn't participate in lottery contests.
   Bill doesn't participate in wrestling contests.
   Does Bill participate in contests? 

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   Does Bill want portraits? 
   Does Bill want pictures? 

    Does Bill collect magazines?
    Does Bill want magazines? 

    Does Bill want pictures? 

    Does Bill hate chocolate bars?
    Does Bill hate candy? 

13. Bill doesn't raise German Sheapards.
    Bill doesn't raise Irish Setters.
    Bill raises Cocker Spaniels.
    Does Bill raise dogs? 

14. John, Bill, and George are electricians.
    John doesn't make bracelets.
    George doesn't make bracelets.
    Bill makes bracelets.
    Do electricians make bracelets? 

15. Bill builds chairs.
    Does Bill build furniture?
    Does Bill like furniture? 

16. Bill doesn't fix German cars.
    Bill doesn't fix American cars.
    Bill fixes Japanese cars.
    Does Bill fix cars? 

17. Bill buys apples.
    Does Bill buy fruit?
    Does Bill want fruit? 

18. Bill destroys American flags.
    Does Bill hate American flags?
    Does Bill hate flags?
   Does Bill like records? _______

20. Bill, John and George are mechanics.
    Bill grows tomatoes.
    John doesn't grow tomatoes.
    George doesn't grow tomatoes.
    Do mechanics grow tomatoes? _______

    Does Bill hate flags? _______

22. Bill reads James Joyce novels.
    Does Bill like James Joyce novels? _______
    Does Bill like novels? _______

23. John, Bill and George are insurance salesmen.
    John doesn't participate in drawing contests.
    George doesn't participate in drawing contests.
    Bill participates in drawing contests.
    Do insurance salesmen participate in drawing contests? _______

24. Bill paints portraits.
    Does Bill paint pictures? _______
    Does Bill want pictures? _______

25. Bill goes to football games.
    Bill doesn't go to basketball games.
    Bill doesn't go to soccer games.
    Does Bill go to games? _______

26. Bill doesn't watch western films.
    Bill watches crime films.
    Bill doesn't watch comedy films.
    Does Bill watch films? _______

27. John, George and Bill are Democrats.
    Bill goes to baseball games.
    John doesn't go to baseball games.
    George doesn't go to baseball games.
    Do Democrats go to baseball games? _______
   Does Bill play records? _______
   Does Bill like records? _______

29. Bill tears up "yellow press" newspapers.
   Does Bill hate "yellow press" newspapers? _______
   Does Bill hate newspapers? _______

30. Bill tears up "yellow press" newspapers.
   Does Bill hate newspapers? _______

   Does Bill like furniture? _______

32. Bill doesn't throw basketballs.
    Bill throws baseballs.
    Bill doesn't throw volleyballs.
    Does Bill throw balls? _______

33. Bill buys apples.
    Does Bill want apples? _______
    Does Bill want fruit? _______

34. Bill throws away chocolate bars.
    Does Bill throw away candy? _______
    Does Bill hate candy? _______

35. George, John and Bill are graduate students.
    John doesn't eat pears.
    Bill eats pears.
    George doesn't eat pears.
    Do graduate students eat pears? _______

36. Bill doesn't grow corn.
    Bill doesn't grow beans.
    Bill grows peas.
    Does Bill grow vegetables? _______

37. John, George and Bill are doctors.
    Bill watches Ingmar Bergman films.
    George doesn't watch Ingmar Bergman films.
    Do doctors watch Ingmar Bergman films? _______
38. Bill collects Esquire magazines.  
Does Bill want Esquire magazines?  ____  
Does Bill want magazines?  ____  

39. Bill buys apples.  
Does Bill want fruit?  ____  

40. Bill reads James Joyce novels.  
Does Bill read novels?  ____  
Does Bill like novels?  ____  

41. Bill tears up "yellow press" newspapers.  
Does Bill tear up newspapers?  ____  
Does Bill hate newspapers?  ____  

42. Bill, George and John are Belgians.  
George doesn't raise Labrador Retrievers.  
John doesn't raise Labrador Retrievers.  
Bill raises Labrador Retrievers.  
Do Belgians raise Labrador Retrievers?  ____  

43. Bill makes bracelets.  
Bill doesn't make necklaces.  
Bill doesn't make rings.  
Does Bill make jewelry?  ____  

44. Bill builds chairs.  
Does Bill like chairs?  ____  
Does Bill like furniture?  ____  

45. Bill collects Esquire magazines.  
Does Bill want magazines?  ____
Questionnaire 2

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Item Described</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bill likes</td>
<td>all, most, many, some, a few, one or two</td>
<td>furniture.</td>
</tr>
<tr>
<td>2. Bill hates</td>
<td>all, most, many, some, a few, one or two</td>
<td>candy.</td>
</tr>
<tr>
<td>3. Bill collects</td>
<td>all, most, many, some, a few, one or two</td>
<td>magazines.</td>
</tr>
<tr>
<td>4. Bill likes</td>
<td>all, most, many, some, a few, one or two</td>
<td>records.</td>
</tr>
<tr>
<td>5. Bill builds</td>
<td>all, most, many, some, a few, one or two</td>
<td>furniture.</td>
</tr>
<tr>
<td>6. Bill hates</td>
<td>all, most, many, some, a few, one or two</td>
<td>flags.</td>
</tr>
</tbody>
</table>
7. 
Bill plays ___ all ___ most ___ many ___ records.
___ some ___ a few ___ one or two

8. 
Bill throws away ___ all ___ most ___ many ___ candy.
___ some ___ a few ___ one or two

9. 
Bill wants ___ all ___ most ___ many ___ magazines.
___ some ___ a few ___ one or two

10. 
Bill destroys ___ all ___ most ___ many ___ flags.
___ some ___ a few ___ one or two