

WHAT IS A SITUATION? A MOTIVATIONAL PARADIGM*

Fordham University

G. R. FENNELL

SUMMARY

A view of motivational and reinforcement phenomena is presented and is used as the basis for a taxonomy of situations. Two situation variables, component and type, are identified in the motivational paradigm. Items used in the S-R inventories of Anxiousness and Hostility are analyzed in terms of situation component and type to illustrate sources of ambiguity in situation specification, and the prediction of situation construction in ambiguous situations. The two situation variables are coordinated to Mischel's (11) person variables in a formulation for the interaction of persons and situations as a function of situation type within component.

A. INTRODUCTION

Paradigm is used in Kuhn's (9) influential work on the course of scientific progress to refer to a way of perceiving, thinking, and doing associated with a particular vision of reality. To a considerable degree paradigms are embodied in unquestioned, tacit understanding and are transmitted primarily through exemplars. It is Kuhn's thesis that what occurs in scientific revolutions is basically paradigm change. Schoenfeld (12) suggests essentially that in his view a paradigm change is in progress with regard to avoidance learning. As a distinct category of experimental interest, avoidance learning will disappear through being subsumed in a new view of reality, currently in the making. Before the current way of perceiving, thinking, and doing with regard to motivational and reinforcement phenomena leaves the scene, it may be of some interest to consider the unquestioned tacit understanding inherent in the exemplars of these phenomena. Such consideration is attempted here with the specific purpose in mind of arriving at one taxonomy of situations that may be useful in the current discussion within personality psychology of the respective roles of personal predisposition and situations as behavioral determinants (5, 10, 11). The various classificatory schemes available for persons do not appear to be matched by a corresponding analysis of situa-

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tions. Mischel (11) has drawn attention to the failure to specify what situations are and how they function psychologically, and Bowers (5) to the failure to specify the population from which situations are sampled. The paradigm presented here offers one response to these comments. Our current way of doing with regard to motivational and reinforcement phenomena may be made to yield at least a first approach to answering the questions: What is a situation? How may we identify classes from which situations are sampled?

1. *The Paradigm*

a. Simple motivating situations—Activating condition. The experimental study of behavior has largely used five simple motivating situations. For each motivating situation an activating condition, a behavior mode, and a terminating condition may be specified. A motivating situation is initiated and may be characterized by its activating condition. The activating condition affects the organism's receptivity to environmental stimulation, and its available behavior repertoire, and specifies the terminating condition. The five simple activating conditions are as follows: aversive stimulation, signalled aversive stimulation, deprivation, exploratory incentive, and signalled intrinsic incentive.

b. Behavior mode. The behavior repertoire available in each motivating situation is designated by a corresponding behavior mode: escape, avoidance, maintenance, exploration, and facilitation. These terms are convenient labels for empirically described behavior patterns observed in each motivating situation. The empirical description of each behavior mode is stated in terms of the time distribution of response forms (e. g., sitting, locomotion, jumping, grooming, etc.). For a range of activating condition durations and intensities, the description of each behavior mode is obtained in an environment which, for the modes of escape, avoidance, and maintenance, does not provide for the termination of the behavior mode, and is undifferentiated with respect to signalled termination of the activating condition. The exploration and facilitation modes are described in an analogous manner. The key difference, of course, is that in the case of these modes, the environment is ineluctably differentiated with respect to termination of the activating condition.

c. Terminating condition. The terminating condition specified by each activating condition is that condition which neutralizes the activating condition. This is conceptualized here as permitted feedback from appropriate contact with a stimulus class the essential property of which is specified by

the activating condition. In the case of a motivating situation initiated by aversive stimulation, the terminating condition is feedback from a stimulus that lacks the aversive properties of the activating condition. For a motivating situation initiated by deprivation, the terminating condition is feedback that ameliorates the condition of deprivation. For motivating situations initiated by signalled aversive stimulation, or signalled intrinsic incentive, the terminating condition is feedback that aversive stimulation or intrinsic incentive is no longer signalled. For a motivating situation initiated by exploratory incentive, the terminating condition is feedback from sensory contact with the activating stimulus. Terminating conditions differ in terms of the range and variety of stimulus substitution possible within the terminating stimulus class specified by the activating condition. Motivating situations initiated by presentation of an exploratory incentive, or a signal for intrinsic incentive, allow no stimulus substitution within the terminating condition. In the other simple motivating situations, the activating condition specifies the essential property of the terminating stimulus class allowing considerable scope for stimulus substitution. Within behavior mode, selection (direction in space, speed of response, etc.) of specific response form is determined by the terminating condition. A special case of response modification under the control of the terminating condition is that in which conditions for terminating the activating condition once established are subsequently reversed. This reversal may have two distinguishable effects on behavior mode modification. Immediately following the reversal operation the existing modification of the behavior mode is further modified in characteristic manner (frustration). If the organism is permitted continued exposure to the reversal operation, the frustration modification is replaced by a further modification of the original behavior mode (extinction). The frustration and extinction modifications of the behavior mode are empirically described in environments that no longer provide for termination of the activating condition. The behavior characteristic of these modifications is described in relation to the modified form of the behavior mode observed prior to the reversal operation.

d. Complex motivating situations. Combinations of simple activating conditions frequently used are, for example, deprivation and aversive stimulation, in the experimental study of conflict, and deprivation and exploratory incentive, in operant conditioning. Observation of behavior in complex motivating situations suggests a priority ordering for activating conditions in which aversive stimulation and signalled aversive stimulation take precedence over the motivating situation initiated by moderate deprivation.

e. Summary. An *E* interested in studying animal behavior chooses an activating condition, and thereby also selects a sample of behavior from the organism's repertoire and a stimulus class which, if he makes it available in the experimental environment for appropriate contact by the organism, will terminate the behavior mode. The *E* then reviews the behavior mode available in his chosen motivating situation and determines how he shall modify it. He may select a dominant response or one less dominant (4, 13) within the behavior mode. He makes decisions regarding the nature of the experimental environment. He may choose an experimental environment that is undifferentiated with respect to signalled termination of the activating condition, one in which a second activating condition is added, or one that is differentiated (positively or negatively) with respect to signalled termination of the activating condition. Finally, he decides the conditions of termination. He may terminate the behavior activated either by reversing the activation operation or by permitting the organism to neutralize the activating operation. If the latter is his choice he reviews the terminating stimulus class specified by the activating condition and, if stimulus substitution is possible, selects a specific terminating stimulus to be presented for appropriate contact by the organism.

2. Discussion

Implicit in the paradigm is a view of learning and the role of reinforcement. A learning view will not be elaborated here beyond noting that the role assigned to learning is that of accounting for environmental differentiation, and response modification with behavior mode. Reinforcement is defined in terms of feedback that appropriately neutralizes an activating condition and terminates a behavior mode.

Although motivational language has been used in describing the paradigm, the language of reinforcement theory (3) appears equally appropriate. In the last analysis the labelling issue reduces to the question whether or not it is useful to be able to refer unambiguously to those antecedent conditions for reinforcement that implicate the conditions of behavior activation and the form of the behavior activated, and that specify the reinforcing stimulus class and the nature of permitted contact with the reinforcing stimulus. If it is desirable to refer to these phenomena collectively, motivational language appears to be uniquely appropriate.

From the viewpoint of behavior control one may have the option of intervening either by creating a specified motivating situation or by modifying behavior within an already ongoing behavior mode. From the viewpoint of understanding ongoing behavior it is very pertinent to inquire regarding the

motivating situation. Observed behavior of turning right in a T maze may be a response within one or other of the behavior modes. It is necessary to know the activating condition in order to predict the stimulus class represented in the goal box, and the nature of the permitted contact with the reinforcer.

In some respects the differences between the present view and that of Bindra (1, 2) trace to difference in focus of interest. Bindra's model addresses mainly the selection of specific responses postulated to be under the control of a central motive state determined by a combination of organismic and incentive effects, with the appetitive and aversive cases treated in similar manner (2, p. 201). The view presented here suggests that the appetitive and aversive cases differ in the extent to which specific response form is under the control of the incentive object, raising the question whether Bindra's formulation may not gain syntactic convenience at the expense of too great a loss in semantics.

The intended use of the present analysis is to arrive at a formulation that permits studying behavior as a function of situation type. To this end it has been found helpful to distinguish activating and terminating effects. It is suggested that the key *motivational* issue is the specification of activating conditions (*cf.* "condition for action" 6 p. 59). Each activating condition initiates a characteristic form of behavior. In the present view, then, motivation is the activation of directed behavior, and the various motivating situations differ in the specificity of behavioral direction implicit in the activating condition.

B. A TAXONOMY OF MOTIVATING SITUATIONS

The application of the paradigm suggested at this time is in reference to the current debate within the field of personality psychology on the respective roles of persons and situations as behavioral determinants. The three interrelated topics of situation ambiguity (11, p. 276), the psychological meaning of situations (11, p. 255), and the idea of sampling from a population of situations (5, p. 323) have recently been raised in a context that points to the urgency of coming to grips with the question: What is a situation? One answer to this question, proposed here, is that a situation is a psychological entity that activates situation-characteristic behavior (behavior mode), and that terminates or frustrates termination of a behavior mode.

The conceptual framework of the motivational paradigm, specifically the identification of activating and terminating conditions as situation components, provides a basis for elucidating systematically relevant sources of ambiguity in situation specification. Situation types identified in the para-

digm offer one basis for a taxonomy of situations identified in terms of psychological meaning. The taxonomy permits sampling a situation type, and the manipulation of situation as a function of type. These points will be illustrated below in terms of the stimulus and response items of the S-R Inventory of Anxiousness (8), and the S-R Hostility Inventory (7). The two situation variables identified here, component and type, will then be coordinated to the person variables proposed by Mischel (11) to account for the interaction of persons and situations as behavioral determinants.

A taxonomy of the five simple motivating situations is presented in the following list of activating conditions, each with its corresponding behavior mode: (a) aversive elements—escape; (b) anticipated aversive elements—avoidance; (c) normal depletion—maintenance; (d) positive elements—exploration; (e) anticipated positive elements—facilitation. The activating conditions, as presented here, are labelled to reflect the perspective of the experiencing individual.

In the experimental context from which the motivating situations are derived, perceived causal attributions for the motivating events are not considered. As illustrated below, accidental/intentional attributions are relevant to the determination of whether or not a given event constitutes an activating condition or, if an activating condition is present irrespective of attribution, accidental/intentional attributions may affect the form of the behavior mode by changing the locus of the activating condition. Likewise, the experimental environment from which the taxonomy is derived involves assumptions about the possibility for changing the situation or leaving the field. In the absence of these assumptions, alternative forms of the behavior mode may be observed. These possibilities are reflected in the following list where the psychological meaning of each motivating situation is shown in terms of the situation perception (in italics) followed by the corresponding ongoing behavior mode: (a) *This situation will remain aversive*. I am escaping from the aversive elements (withdrawing from or changing the situation). (b) *This situation will become aversive*. I am avoiding the occurrence of aversive elements (withdrawing from the situation or preventing the occurrence of aversive elements). (c) *This situation is gradually becoming aversive*. I am maintaining/restoring the situation. (d) *This situation is interesting*. I am exploring the situation. (e) *This situation will become enjoyable*. I am facilitating the occurrence of positive elements.

1. Stimulus Items in the Anxiousness and Hostility Inventories

Consider situations such as those used as stimulus items in the S-R Inventory of Anxiousness: for example, "You are crawling along a ledge high on

a mountain side." This item represents instrumental behavior, the activating condition for which is left to the *S*'s construction. It is, then, a specific response in a behavior mode determined by the *S*'s construction of the activating condition. Further, by specifying response selection within behavior mode the inventory stimulus item has predetermined the form of the behavior mode for the two situation types where alternate forms are specified. Accordingly the taxonomy predicts that across unselected *S*s the behavior mode underway is escape-withdrawal (e. g., on the ledge as the result of a plane crash), avoidance-prevention (e. g., in response to a challenge to one's courage), maintenance (e. g., an Alpine guide fulfilling normal role function), exploration (e. g., for a hobbyist's interest in the activity itself), and facilitation (e. g., on the way to enjoying the view, breeze, and sun at the top of the mountain). There may in fact be considerable agreement among *S*s in terms of perceived activating condition. Although some *S*s may see themselves on the mountain ledge in one or other of the situations specified above, modal situation construction may be aversive elements/withdrawal. Likewise, to take another stimulus item—"You are getting up to give a speech before a large group"—while situation construction across unselected *S*s is predicted to reflect the range of activating conditions specified, modal construction may be normal depletion/maintenance (e. g., giving the speech as a routine aspect of role function). Effectively then, the 11 stimulus items as a whole are sampling one or more situation types identified in the taxonomy. Elements included in item wording are predicted to restrict the range of situation construction in a systematic manner. The use of "important" in the item "You are going to an interview for an important job" makes it unlikely that the activating condition will be constructed as normal depletion/maintenance. "Important" suggests an activating condition that is more urgent (e. g., aversive elements or anticipated aversive elements) than the motivationally less pressing normal depletion/maintenance situation.

Situations such as those used as stimulus items in the Hostility Inventory may similarly be considered in terms of situation component and situation type. In part the Hostility Inventory stimulus items can be classified as activating conditions, specifically aversive elements/escape; in part as instrumental behavior in a terminating condition; and in part as sufficiently ambiguous to permit the situation to be constructed either way.

a. *Activating condition: aversive elements/escape* Examples of items in the aversive elements activating condition are as follows: "You accidentally bang your shins against a park bench," and "Someone has splashed mud over your new clothing." In the case of the latter item the absence of accidental/intentional specification leaves this aspect open to the *S*'s construc-

tion. If perceived as accidental, escape behavior will be directed toward cleaning off the mud; if perceived as intentional a second source of aversive elements associated with the agent of the action, and escape from those elements are added. "Someone has opened your personal mail" is an example of an item that may or may not represent an activating condition (aversive elements) depending on its construction as accidental or intentional. More generally, items that represent an activating condition unambiguously leave the terminating condition to the *S*'s construction, and in that respect present an ambiguous situation to the *S*.

b. Terminating condition: expectancy reversal/restructuring. The special case of terminating condition involved in the Hostility Inventory is termination reversal. From the viewpoint of the experiencing individual, the psychological meaning of this situation may be stated as expectancy reversal, and the corresponding form of the behavior mode underway as restructuring the situation. Examples of items in the expectancy reversal terminating condition are as follows: "You are driving to a party and suddenly your car has a flat tire," "You are talking to someone and he/she does not answer you." In the case of the latter item, accidental/intentional attribution for nonresponse is not specified, and this element is left to the *S*'s construction. Note that the effect of this omission is not to change the item's impact as expectancy reversal but to leave to the *S*'s construction whether or not the item also represents an aversive elements activating condition with corresponding escape behavior from the agent of the frustration. Ambiguity arising from failure to specify accidental/intentional attribution can be removed by a change in item wording. There are, however, additional sources of ambiguity in expectancy reversal items that trace to the nature of the situation component (terminating condition) represented by the item. An item representing a terminating condition leaves the activating condition to the *S*'s construction. More specifically, in the special terminating condition case involved here, expectancy reversal, neither the activating condition nor the environmental contingencies associated with the expectancy are specified in the inventory item. For example, "You are talking to someone and he/she does not answer you" leaves both activating condition (for talking to the person) and behavior-outcome expectancy within activating condition (in similar circumstances in the past how often has the individual responded?) to the construction of the *S*.

c. Situation component classification ambiguous. A few items are sufficiently ambiguous to allow for classification either as an activating condition or as a terminating condition. For example, "Your instructor unfairly accuses you of cheating on an examination" would be classified under expectancy

reversal if the accusation is constructed to entail withholding a course grade, and under aversive elements if no element of goal thwarting is perceived.

2. *Response Items of the Anxiousness and Hostility Inventories*

Paralleling the formal differences between the stimulus items of the Anxiousness and Hostility inventories are differences between the inventories in what the response items are measuring. In the Anxiousness Inventory the bulk of the response items measures the experiential concomitants of instrumental behavior in situations constructed by the *S*'s: for example, "Get an 'uneasy feeling,'" "Feel exhilarated and thrilled," "Heart beats faster." A few response items record the *S*'s belief about his possible overt manifestation of emotional state: for example, "Emotions disrupt action," "Become immobilized." In the Hostility Inventory many of the response items measure the experiential concomitants (e. g., "Feel irritated," "Become tense," "Heart beats faster") of instrumental behavior selection constructed by the *S*s in situations that afford varying degrees of latitude for situation construction. A few response items record the *S*'s belief about his possible overt manifestation of emotional state: for example, "Emotions disrupt action," "Frown," "Grind teeth," "Grimace," "Splutter," "Curse," "Swear." While some of these response items may represent instrumental behavior, it is perhaps a little surprising that instrumental behavior selection was not unequivocally a dependent variable in either of these S-R inventories.

3. *Interpretation of Inventories' Findings*

The analysis of the items used in the S-R inventories presented here has had two main objectives. First, it has been intended to illustrate how the situation variable, situation component, facilitates the clarification of systematically relevant sources of ambiguity in stimulus items. It will be shown later that this clarification is helpful in coordinating situation variables to person variables. Secondly, it has been intended to illustrate that stimulus items representing situations may be classified as sampling situation type (taxonomy category). The taxonomy categories provide a theoretical framework within which situational effects on behavior may be studied. Research conducted within this framework would preferably focus initially on situations that can be classified unambiguously in terms of taxonomy categories. Very few of the stimulus items used in the S-R inventories can be so classified. For the data generated by the inventories to be analyzed and presented within the present framework it would be necessary to subject the stimulus items to research designed to establish modal situation perception in terms of taxonomy categories. For this reason it is not possible to carry forward

the present view in any detail in terms of the published data generated by the inventories. Within the conceptual framework presented here it is, however, possible to make the following general observations.

In the Hostility Inventory the contribution to variance of persons relative to situation was found to be considerably greater than in the Anxiousness Inventory. The formal differences between the two inventories in situation component and type represented by the items raise the question whether it is appropriate to draw any inference regarding individual differences in trait intensity for hostility and anxiousness from these data, and the fact that neither inventory focused on instrumental behavior selection as a function of anxiety or hostility raises the question whether the inventories tell much about anxiousness or hostility as behavioral determinants (7). Likewise, the statistical analysis of inventory data conducted without regard to the formal differences in situation component and situation type represented by the items raises the question whether inventory data contribute to an understanding of the relative contribution of persons and situations as behavioral determinants. As long as ample and substantively varying opportunity for situation construction is permitted, the relative contributions of persons and situations as behavioral determinants cannot readily be inferred from the statistical apportionment of variance.

4. *Situation Variables and Person Variables*

Two situation variables have been identified: component (activating, terminating condition) and type (taxonomy category). It has been shown that item selection may be coordinated to these two situation variables, permitting elucidation of the source of situation ambiguity, and systematic sampling of situations with a common psychological meaning. It remains now to coordinate the situational analysis presented here to the person variables proposed to account for the interaction of persons and situation by Mischel (11, p. 275). The unambiguous specification of a situation in terms of activating condition (including accidental/intentional specification) permits controlling for interpersonal differences in (variable #2) encoding strategies and personal constructs and in (variable #4, in part) perception of motivating and arousing stimuli. Under these circumstances interpersonal differences in behavior selection are observed as a function of differences in (variable #1) behavior and cognition construction competencies, (variable #3) behavior and stimulus outcome expectancies, (variable #4, in part) perception of relevant incentives—that is, stimulus substitution within terminating condition, and (variable #5) self-regulatory systems and plans. As noted earlier the

opportunity for stimulus substitution within terminating condition is not available in the positive elements motivating situation. Accordingly in motivating situations #4 and #5 (positive elements and anticipated positive elements) perception of relevant incentives is already specified by the activating condition and does not enter the determination of differential behavior selection within situation type.

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*Division of the Social Sciences
Fordham University, Lincoln Center
New York, New York 10023*