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The Behavior Analysis of Moral Behavior

(El Análisis Conductual del comportamiento Moral)

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RESUMEN

Se presenta un análisis de los principios y operaciones comprendidos en la adquisición y control del comportamiento moral del niño. Este trabajo describe varios procesos de aprendizaje de la conducta moral en los niños preverbales y verbales, destacando comportamientos manifiestos que connotan altruismo, empatía, compartir, cuidar, justicia o virtud. Se contrastan los enfoques analítico-conductual y cognoscitivo-evolutivo. Se distingue entre conducta directa moldeada por contingencias y conducta gobernada por reglas. Se contempla la conducta moral inicialmente controlada por contingencias directas no verbalizables en los niños prelinguisticos. Posteriormente en el desarrollo, con avances en las habilidades linguisticas, una gran parte de la conducta moral del niño se somete al control de reglas (incluyendo tanto a las autogeneradas como a las procuradas por otros). El análisis intenta cubrir detalles que parecen requerir los postulados cognoscitivo-evolutivos, y proporciona algunas claves para explicar la acción moral y la relación del razonamiento con la acción.

Palabras clave: análisis conductual, comportamiento moral.

Abstract

An analysis is presented of the principles and operations involved in the acquisition and control of the child's moral behavior. This paper describes various learning processes for moral behavior in preverbal and verbal children, focusing on overt behavior that connote altruism, empathy, sharing, caring, justice, or virtue. The cognitive-developmental and behavior analytical approaches to moral development are contrasted. A distinction is made between direct contingency-shaped behavior and rule-governed behavior. Moral behavior is viewed initially as being under the control of nonverbalizable direct contingencies in prelinguistic children. Later in development, with advances in language skills, much of the child's moral behavior is viewed as coming under the control of rules (including both those that are self generated and those provided by others). The analysis attempts to fill in details that cognitive-developmental postulates seem to require, and provides some leads in explaining moral action and the relation of reasoning to action.

Key words: behavior analysis, moral behavior.

INTRODUCTION

The behavior-analytical approach recognizes that moral behavior is determined by *both* organismic and environmental factors, that human beings may be born with the potential for developing patterns of moral conduct of different types. The present analysis, however, will focus on moral-behavior patterns that are *learned*. Our assumption is that moral behavior can be shaped and maintained, modified, managed, and even reversed or eliminated. We describe various processes thought to be responsible for the learning of overt moral acts without taking a particular moral-value position, distinguishing "good" from "evil" acts, or appealing to absolute value principles or developmental stages.

For the most part, psychological research on young children's moral reasoning and action has had a two-fold focus: 1) *behavior* like lying or cheating as well as prosocial and altruistic behavior and their determinants (e.g., Eisenberg, 1991; Ekman, 1989; Hartshorne & May, 1928, 1929, 1930); and 2) *reasoning* and *judgments* about hypothetical moral dilemmas (e.g., Kohlberg, 1969; Piaget, 1932). In recent years, cognitive-developmental approaches to moral development, based in particular on the work of Piaget (1932) and Kohlberg (1969, 1981, 1984; Kohlberg & Diessner, 1991), have given the area of moral development much of its tone. One problem with such cognitive-developmental theories is that, for the most part, they have concentrated not on moral acts per se but on judgments and expressed reasoning about hypothetical moral dilemmas. This reliance on moral reasoning and judgment of the child has limited an understanding of the proximal causes of moral *action*, particularly in cases where verbal judgments/reasoning are neither precursors, nor concomitants, of overt moral action.

It is regrettable that, to date, most investigators in the field of moral development have subscribed to nonbehavioral cognitive explanations that have devoted little attention to the study of overt moral action per se. One result of this intellectual trend is that the principles and processes that account for the early acquisition of moral *behavior*, such as *reinforcement and punishment*, *imitation*, and *generalization processes* as well as the distinction between *direct contingency-shaped and rule-governed* behavior, have been for the most part overlooked by theorists and researchers.

Taking into account this lack of attention to the more fundamental operations, we here outline a conceptual approach to moral development that emphasizes behavior/action. Our analysis is based on the functional interrelations between environmental contingencies and the child's behavior in context. The examination is of extrinsic stimuli and observable res-

ponses, as we attempt to describe how variations in environmental factors and contingencies comprising the *social context* can influence the child's socio-moral behavior, and vice versa. From this perspective, moral development refers not only to progressive changes in the child's behavioral patterns, but also to changes in interrelated stimulus patterns. That is, environmental stimuli change too as a result of their *interaction* with behaviors of the child in a reciprocal influence process.

CONTEXTUALISM: THE WORLD VIEW OF BEHAVIOR ANALYSIS

Assumptions about moral behavior and the researcher's interpretations of observations will depend on the theoretical model adopted and its underlying philosophical *world view*. The world view of approach to moral development is that of *contextualism*. Under mechanistic models, the individual has been seen as passive and inherently at rest. The external forces applied to the organism, are seen as the only efficient/immediate causes for behavior. Behavior analysis, however, does not see the child as a passive organism or as one who does not contribute to his or her own development (e.g., Lerner, 1976, p. 279), or as molded by the environment without assuming any particular direction to development (e.g., Mussen, Conger, & Kagan, 1974, p. 65). It conceives *both* the organism and the environment as *active*, and to comprise an inseparable interdependent unit (Bijou, 1979; Gewirtz & Pelaez-Nogueras, 1991; Morris, 1988).

Thus, the focus of behavior analysis is on *sequential and reciprocal* influence in interaction between the individual's behavior and environmental stimuli (Morris, 1992, 1993). Even though the experimental analysis in behavioral approaches is typically made in terms of stimulus and response units, the results of which are sequences of stimuli and responses, the main emphasis of behavior analysis is on (a) the functional and reciprocal interrelations of those stimuli and responses in context and (b) their bidirectional influences. Responses are seen to be in continuous dynamic interaction with the stimuli that constitute the child's functional environment. Both environment and child behaviors are active--that is the environment units in turn act upon and modify the child's responses while the child responses act on an modify the environmental units (Bijou, 1979).

Because behavior occurs in context with a history of contingencies, it is studied in context; for context is what gives behavior its functional meaning (Morris, 1988). On this basis, the behavior-analytic approach is contextualistic in world view, the underlying root metaphor being the *historical act in context.* To paraphrase Morris (1988), each interaction is

the unique product of past activity in current context, and is as well the historical context for the next interaction. Current contingencies then become the determinants of subsequent behavior. The ongoing behavior, constituted of stimulus and response functions in context, is continuously active. In this sense, behavioral development is a continuous process. The behavior changes evolve on a moment-to-moment basis rather than in terms of qualitatively-distinct macro stages. The study of moral development must recognize the historical context; that an individual's social-contingency history would be the major determinant of its subsequent moral behavior. The unique history of contingencies of each individual results in interindividual differences in moral-behavior patterns and in the development of the rules governing moral behavior.

DIFFERENCES BETWEEN THE COGNITIVE-DEVELOPMENTAL AND BEHAVIOR-ANALYTIC THEORIES OF MORAL BEHAVIOR

The *cognitive-developmental* and the *behavior-analytic* theories of moral development differ in many respects. Even so, both theories seem to have a number of similar implications for studying the direction of effects in interaction (Gewirtz & Peláez-Nogueras, 1991). Four main differences are:
(1) The cognitive-developmental and behavior-analytic approaches to moral developmental diverge on their epistemological orientations, being either *absolutistic* or *relativistic* (Kurtines & Gewirtz, 1984). Theories of moral development, like that of Kohlberg (1969), are absolutist, in that they stress universal moral principles (e.g., justice) and thinking based on those principles. In contrast, the behavior-analytic approach is relativistic, in that it stresses the contexts and consequences of moral and inmoral actions. Prosocial behavior or moral actions and verbal judgment are viewed as under the influence of beneficial or detrimental consequences experienced by the individual. Many actions called "moral" are not romantic expressions of moral "goodness" or principled thinking, but rather they involve an increasingly-sophisticated sense of how to further one's long-term interests based on the predicted consequences of our actions (see also, Liebert, 1984). (An analysis of different theoretical perspectives and their epistemological orientations to moral development can be found in Kurtines, Alvarez, and Azmitia, 1990.)

(2) The cognitive-developmental and behavior-analytic perspectives also differ in how they approach and explain the "causes" (or processes) underlying action, and whether or not a universal invariant progression of "stages" orders hierarchically moral development. Evidently, the cognitive-

developmental theories have been imprecise in accounting for the acquisition of, and changes in, the child's moral behavior patterns. They have developed a heuristic with mental structures termed "schemas" as devices of explaining the child's moral behavior. On the other hand, behavior analysis assumes that the determinants of moral behavior can be isolated by an analysis of context and observable contingencies that have operated. Such context and consequences and their interrelations provide the basis for understanding and predicting moral behavior without recourse to unobservable causes, inner activities or complex theoretical constructs.

For instance, mentalistic constructs like *"schemas", "moral self",* and *"stages"* (Kohlberg, 1969; Kohlberg & Diessner, 1991) and *"decentration"* (Favell 1985; Gibbs, in press) are advanced as processes or causes of the behavioral patterns observed, even while little is known about "facts" in the moral realm, namely functional (cause and effect) relations between controlled variables. Cognitive theories use these constructs to explain the development of moral behavior, which they arrive at by what Schlinger (1991) has termed "logical error". Schlinger's argument is that:

> First, the behavioral class is given a name. The name is then reified and itself becomes the object of study. And, finally, the name becomes the explanation, usually with the help of syntactic rearrangement. Much of the Piagetian approach to development illustrates this (p.5).

An example is found in the study, by cognitive developmental theorist, of verbal responses denoting moral reasoning and judgments about hypothetical dilemmas, sometimes resulting in the emergence of a new stage. Later, when children respond verbally according to the criteria of a higher stage, the typical explanation is that they do so because they have now achieved a new stage of moral reasoning. Clearly, there is circularity if not tautology in this argument. The "stage" of moral development, which was originally the label for certain verbal responses of judgments of the child, is now a causal "structure" that is conceived to be responsible for the child's verbal responses.

For learning approaches, whether or not moral behavior could be ordered in terms of an *invariant* progression of behavior patterns or "stages", may be interesting and useful, but is not the required proximal explanation of the behavior. When a progressive order of behavioral change is detected in children, with behavior showing a changed organization at different developmental levels, behavior analysts typically attempt an explanation in terms of common learning experiences and contextual determinants (and not in terms of invariant universal stages). That is not to say that the concept of developmental stage can not be useful for its heuristic, descriptive

or classificatory value. Nevertheless, "stages" have very limited, if any, explanatory value as "causes" of observed behavioral changes.

(3) The two approaches to moral development also differ on their conception of how the child's reasoning relates to moral action. For instance, Kohlberg (1981, 1984) has advanced the general proposition that moral judgments should correlate generally with, and hence predict, overt moral behavior. Even so, as yet no developmental theory, much less a theory of moral development, has demonstrated *if* and *how* reasoning processes relate to moral action. Our assumption is that overt moral reasoning and judgments can occur as antecedents of, concurrently with, or consequent to moral action. Furthermore, reasoning/judgment and behavior often could be uncorrelated.

Clearly, when moral reasoning and judgment are transformed into observable responses or indexed by overt verbal behavior, they can be studied and related to moral actions. However, there are some difficulties with such analysis. One problem for the researcher is to detect by which means the verbal judgment of the child is reached. For instance, verbal judgments can be reached trohugh problem-solving skills, by the emergence of an equivalence class, as a result of imitation, or simply via a memorized verbal response of the child. In such analyses then, it is often not possible immediately to ascertain true "judgment" on the basis of the verbal report itself. Such verbal responses would be seen more as concurrent reflections or learned responses rather than as proximal determinants or predictors of moral acts. Moreover, even when verbal behavior indexes moral reasoning and judgment, it does not necessarily have to correlate with overt moral acts. Before the researcher makes any assumptions of cause and effect between reasoning and action, it is always important to make a historical analysis of the determinants of the verbal responses involed.

(4) The two approaches also differ on how moral behavior comes under the control of environmental stimuli and ultimately of *rules*. According to Kohlberg's (1969) and Piaget's (1932) organismic/constructivist views, the organism's "cognitive structures" refer to rules for connecting experienced events. Rules can be seen as *verbal behavior* that describe contingencies. Verbal rules can maintain behavior of individuals for long periods without their directly experiencing the consequences of their actions. Verbal behavior has a history of reinforcement exclusively through the mediation, direct or indirect, of other persons. But this point will be elaborated in a later section.

To summarize these points, behavior analysis is concerned with lawful relations among observable events--the behavior of individuals in interaction with environmental factors. The analysis can be extended to private

events, like problem solving and thinking, but *only* after overt behaviors reflecting those private events--are analyzed and understood (Schlinger, 1991). The advantage of behavior analysis is that, by emphasizing *external* variables and *observable* moral actions, the analysis moves away from those "inner" events that are inaccessible to the investigator. Emphasis on these unobservables can only complicate analyses of the actual processes and contextual factors responsible for the child's moral behavior, or for that matter, of any other behavior.

BASIC OPERATIONS IN TIIE ACQUISITION OF MORAL BEIIAVIOR

Reinforcement

In operant-learning, *reinforcement* (or punishment) is descriptive rather than explanatory. It describes a functional relation between a response and its environmental contingencies, but it does not explain the relation (Catania, 1984). The concept of reinforcement under the functional analysis employed in operant learning is straightforward (Catania & Harnad, 1988; Skinner, 1938, 1953, 1969). In reinforcement, the behavioral change observed must occur due to the operation of the contingent event and the contextual determinants (or establishing operations).

Reinforcing or punishing stimuli need not function as such under *all* conditions for every response of another individual. For example, a contingent event that functions as a reinforcer or punisher for one response of the child need not function as a reinforcer or punisher for the same response in a different setting, for a different response in the same setting, or for the same response of another individual in the same setting. Also, the fact than an environmental event functions as a reinforcing stimulus for a response in a particular context does not preclude its functioning in different stimulus roles in other contexts for the same, or for another, response unit (Catania, 1973; Gewirtz, 1971b, 1972). In the analysis of *social reinforcement*, the intended social reinforcer may operate differently across individuals. For example, in the case of the early acquisition of the child's moral behavior, adults attention or approval can function as a positive reinforcer for the act of one child, as a negative reinforcer for a second child emitting the same act, as a neutral stimulus for a third child, or even as a punisher for a fourth child (Bijou & Baer, 1961). Therefore, when making a functional analysis of moral behavior careful consideration of individual differences is recommended in the selection of reinforcing stimuli.

Under a functional analysis, the child's *responses* are related to environmental *stimuli* of the past and present, and no comprehensive empirical account of behavior can be attained if the interrelationships between them are not understood. The analysis attends to systematic changes in some attribute (e.g., rate, amplitude, duration, intensity, latency) of the response as a function of environmental contingencies. In terms of behavioral functions, a functional analysis establish what effects the responses have (e.g., as discriminative or reinforcing stimuli). In what follows, several learning processes that involve a functional analysis of stimulus control, behavior and reinforcement (or punishment) are described.

Basic Processes in the Acquisition of Moral Behavior

Immediate and Delayed Imitation

Reflexive imitation occurs immediately following birth and then seems to decrease with development. *True* imitation develops later during the first year and subsequently (Uzgiris, 1981). Children first perform imitative acts that are matched to the behavior of significant models (parents) in their environment. The child's imitative responses can be reinforced by the behavior of these models and others, such as by contingent smiles, attention, praise, approval, reciprocal imitation, and the like. Such reinforcement contingencies, occurring at least intermittently, can establish the first learned prosocial behaviors. The acquisition of these imitative responses is thought to follow operant-learning principles (Skinner, 1938).

In early childhood, the matching responses of the child are emitted immediately after the model's behavior. But the child's prosocial responses, like sharing and helping, are controlled similarly in both *immediate* and *delayed* imitation. In the immediate imitation case, the child's behavior is controlled by the discriminative stimuli in the situation and the response is performed shortly after in that same situation. In the delayed imitation case, the child's response matched to the model's behavior is emitted after lengthy delays, or in the model's absence. The child's behavior is controlled by the discriminative matching of those stimuli present in the immediate context with stimuli that were present in an earlier context in which the model's actions were emitted originally. In other words, the discriminated stimule serve, as it were, to prompt and to reinstate part of the original situation. Delayed imitation is involved in a process termed *pervasive imitation* and is commonly seen in more developmentally-advanced children acting in wider social contexts, also in the processes of rule acquisition, ru-

le generalization, and role taking, where the social— conditioning process can involve more elaborate forms of social interaction.

Moral Behavior through Pervasive Imitation

Much of the child's moral behavior, values, judgments, moral rules, and moral roles are acquired through *pervasive imitation.* A substantial proportion of the phenomena grouped under the concept of *identification* may be ordered by the concept of pervasive imitation. (The distinction between identification and pervasive imitaion is, to a degree, an arbitrary semantic one, with no fundamental differences in the way in which they are learned).[1]

In pervasive-imitation learning a child acquires an ample range of the behavior repertory of a parent (usually the parent of the same gender as the child), including behaviors connoting moral values, attitudes and standards. For that concept, Kohlberg & Diessner, 1991) postulation of identification as the basis for early rule learning and therefore later moral reasoning and behavior could be reduced parsimoniously to the concept of pervasive imitation. Pervasive imitation involves conditional responding, with imitation a functional matching-response class comprised of diverse responses matched to a parent/model's behaviors. The conditional moral responses could be emitted by the child after lengthy delays or in the model's absence, and could be acquired and maintained by extrinsic reinforcinh stimuli usually provided intermittently by the parent's or other adult's reactions to the child's moral actions.

The behavior-analytical approach to moral development views the phenomena of pervasive imitation as involving: (1) the child's moral and other behavior being matched to those of a specific other with whom the child has a salient relationship and, in that sense, has formed an "attachment" (Gewirtz, 1972), and (2) the tendency of the child to imitate the moral behaviors of that person across relatively long periods of time. The child's behavior pervasively becomes like that of the influential model (the attachment figure), matching most of his/her moral actions, as well as verbal judgments and values. In this way, imitative prosocial/moral behaviors, like any other behavior, can be emitted and reinforced intermittently by ot-

1 In our analysis, the major reason we use the term pervasive imitation is to preclude misinterpretations and to facilitate the fitting of existing and future data on identification processes into a framework that allows us more easily to tie in other important aspects of the learning process (Gewirtz & Stingle, 1968). Identification has been used variously to refer to the process by which moral values, motives, ideas, roles and conscience of an important other person (the model, a parent usually of the same gender) are acquired/adopted by the child. Freud (1933) regarded identification as the process by which "one ego becomes like another one, which results in the first ego behaving... in certain respects in the same way as the second; it imitates it and, as it were, takes it into itself (p. 90)." Earlier, Freud (1920) used imitation as the outcome index of identification (Gewirtz, 1991).

hers in the absence of the model. As noted, the child focuses its pervasive imitation on at least one model and imitates not only a range of the model's overt moral behaviors, but also the behaviors implied in such general dispositions as moral values, principles, style, motives, as well as moral judgments.

To summarize, the child's pervasive imitation of the model's behavior can occur in the absence of environmental consequences. The behavior occurs due to the original consequences produced during training and/or intermittent reinforcement. If imitation is to be seen as a learning mechanism in development, the child's imitative repertoire must be generative, as in generalized imitation, rather than dependent on direct reinforcement for each response (Baer & Deguchi, 1985; Poulson, et al. 1988).

The Match-to Sample Paradigm. An efficient operant model to account for such imitative matching phenomena emphasized above can be provided by a conditional-responding conception such as that of the *matching-to-sample paradigm* (Cumming & Berryman, 1965; Gewirtz & Stingle, 1968; Gewirtz, 1971d). In a simple discrimination learning task, the presence of a single discriminative-stimulus (S^{Δ}) sets the occasion for reinforcement of the single "correct" response. In a conditional-discrimination task, the correct response for reinforcement is defined on the basis of the relationship of the attributes of *two* or *more* stimuli. For instance, the subject's moral response must match a conditional sample stimulus (in this case, successive responses of the parent) in a particular setting for reinforcement to occur. The discriminative stimulus for the child's response thus can vary across discrimination trials, depending on the conditional stimulus. The conditional stimulus comes to function not as a simple, but rather as a differential, cue for responding. Under this paradigm, a child acquires the pattern of matching its moral responses to those of the parent model across occasions, as a result of these matched responses being extrinsically reinforced by the model of others (e.g., a father saying to his child, "You are as kind and just as your mother").

As earlier noted, the matching responses will often occur in the "apparent absence" of reinforcing contingencies. Observers can be unaware of the conditioning history (historical context) of the matching-response class and, in particular, the wider intermittent extrinsic-reinforcement matrix in which that response class is embedded. This is why intermittently-reinforced child imitations of moral behaviors can appear to be instances of the "observational" or "vicarious learning" for which Bandura (e.g., 1969, 1971; Bandura & McDonald, 1963) has argued. There are many problems, however, concerning the application of Bandura's social-learning conceptualizations, as well as other cognitive approaches to moral development.

The concept of "observational learning" and "vicarious reinforcement" cannot be meaningful within an operant learning frame because the *target behavior* in the observer, together with its controlling *antecedent* and *consequent stimuli* (i.e., the three-term contingency pattern of *stimulus-response-reinforcement* in context), typically are *not* identified. Specifically, the observer's matching response is *not* emitted, nor is that nonemitted response ever reinforced extrinsically. (For a detailed analysis of such problems in Bandura's model, see Gewirtz, 1971b.)

Moral Role Taking

Role taking consists primarily of the individual learning (through differential contingencies for compliance and noncompliance of role-pertinent behaviors) to discriminate the characteristics of, and exhibit specific behavior required for, a particular *role* (e.g., a "good son/daughter," a "responsible student," a "loyal friend," a "faithful spouse," a "deveted parent", an "honorable politician," a "celibate priest," a "caring nurse/doctor," an "honest judge," a "fair boss"). Moral role taking involves the reinforced imitation of a set of actions of an influential model directly relevant to the response class. These responses could include those that denote altruism, loyalty, empathy, justice, as well as prosocial behaviors such as sharing, helping and cooperation in a variety of social settings. With developmental advances, the role-pertinent behaviors of the child may be controlled by a subset of specific rules operating in some given contexts.

To conclude this section, behavior denoting moral standards like honesty, justice, loyalty, conscience, and public or private virtue such as altruism, caring, sharing, or empathy, can be fostered in appropriate environmental contexts by the child being exposed repeatedly to behaviors of role models that can be characterized as "honest," "altruistic," "just," and provide reinforcing consequences contingent upon the child's *matching* responses. In the same way, behavior denoting standards like dishonesty, greed, corruption, or selfishness can be fostered by exposing the child repeatedly to the model's behavior patterns characterized as "dishonest," "greedy," "corrupt," and provide reinforcing contingencies on the child's *matching* responses (e.g., as in the case of "gang" of "terrorist" leaders functioning as models for the members of the group). All these imitative behaviors then would become part of the individual's repertory of moral and immoral behaviors. Later in development (e.g., during adolescence) the overt imitative behaviors of the young adult can occur in the absence of the original model'(s) and be maintained by consequences

mediated by the behaviors of diverse others (e.g., peers) conforming to group norms and societal standards.

Direct contingency and Rule-governed Moral Behavior

Direct Contingency-Shaped Behavior

Direct contingency-shaped behavior is shaped directly by its consequences and comes under the control of nonverbal discriminative stimuli. Contingency-shaped behavior units ("operants") are given meaning and strengthened by those of their *direct* consequences that function as reinforcing stimuli. On the other hand, rule-governed behavior, as described by Skinner (1966, 1969), is discriminative responding shaped by reinforcement of rule following. Although the two types of behavior are similar in form, their functional properties and controlling variables are different (see Cerutti, 1989).

The acquisition of stimulus control over behavior termed "moral" is reinforced by diverse contingent consequences for that behavior in the presence of the discriminative controlling stimuli (S^{Δ}). Often the contingencies applied to the moral-behavior units involve contents that refer to, or specify, rights, duties, or obligations, and are typically dispensed by reinforcing or punishing agents in terms of societal of reference-group standards. Because of a history of an operant response class having been repeatedly followed by reinforcing-stimulus contingencies, the response class increases systematically in some attribute in the presence of a discriminative stimulus. As a result of this history, the consequences for that response class in a particular environmental context become, as it were, "anticipated" by a child.

Many behavior patterns that have been termed "moral" or prosocial (e.g., sharing, caring, helping) seem to involve responses that have been shaped and maintained by direct positive social consequences (e.g., approval, acceptance, praise, affection) or nonsocial consequences (e.g., privileges, activities, tokens). Also, many moral behavior seem to involve responses that avoid or eliminate aversive social consequences (e.g., disapproval, rejection, reprimands), and aversive nonsocial consequences (e.g., removal of material privileges or activities). Parents play a most important role in the training of moral behavior and judgment of their children. The usual behaviors of parents or caregivers that provide the reinforcing or punishing consequences contingent upon the child's actions in a given context can directly shape those classes of moral responses.

However, as will be described in the next section, as the child's behavioral repertoire becomes more complex, and language is acquired, the child's actions come more under the control of *verbal rules* (both formulated by others and self formulated) and of the *remote/indirect* consequences of carrying out those rules, relative to the control of direct reinforcing or punishing contingencies. Also, as their behavior repertoires increase, children become able to discriminate both the immediate and the delayed long-term consequences of their actions. Children learn to predict the consequences of a given action--that is, *which* consequences prevail in a particular setting, and *how, when* and *by whom* these consequences would be applied.

In studying the moral behavior of the child, a systematic focus on environmental/controlling variables is essential, and requires the study of stimulus-response processes in past and present contexts. Thus far, our emphasis has been on overt prosocial behavior shaped by direct consequences in children with both verbal and nonverbal skills. Next, we will examine how the child's actions come increasingly to be controlled by *rules.*

Rule-governed Behavior

Much moral behavior is rule governed rather than direct-contingency shaped. Rule-governed behavior has been distinguished theoretically and experimentally from behavior that is shaped and maintained by its direct consequences (Catania, 1084; Catania, Shimoff, & Matthews 1989; Cerutti, 1989; Hineline & Wanchinsen, 1989; Skinner, 1966; Vaughan, 1989; Zettle & Hayes, 1982). Rule-governed behavior can be modified by altering either its antecedents, its consequences, or both. In contrast, contingency-shaped behavior is modified only by its consequences.

Skinner identified rules as "contingency-specifying stimuli" (1966). In Skinner's account, rule-governed behavior is often determined by behavior and therefore only *indirectly* by its consequences (1969). The rule specifies (explicity or implicitly) the consequences for the behavior. Hence, the acquisition of verbal language is required. The child must have acquired verbal skills and receptive and expressive language, to be able to comply with specific instructions and requests. The child must also understand the meaning of short- and long-term consequences. A rule differs from a simple S^D in that it is a verbal statement that specifies the contigency relationship between stimulus and response. The effectiveness of such a rule in controlling behavior depends on the consequences for following or not following the rule. Rules can be provided by an instructional agent or be self provi-

ded. Skinner emphasized that the contingencies, not the rules, exist before the rules are formulated. Even though both contingency-shaped and rule-governed behavior are established by contingencies, their controlling variables and functional properties differ, even in cases where the behavior is similar, if not identical, in form.

Some difficulties in the distinction and diverse interpretations have lead to confusion and controversy in the field of rule-governed behavior (e.g., Catania, 1989; Glenn, 1987, 1989; Ribes, 1987; Schlinger, 1990). Most behavior theorists, however, seem to agree on the notion that rule-governed behavior involves discriminative responding that is shaped by the reinforcement of rule following. In our analysis of moral behavior, one fact is clear: The concept of rule-governed moral behavior is needed because it accommodates the description of complex moral behavior that is under the control of, and can be modified by, antecedent verbal stimuli. Crucial to the distinction between direct contingency-shaped and rule governed moral behaviors is that the latter involves *two* sets of contingencies, those related directly on the behavior of interest and those related to the verbal antecedents of that behavior. For verbal stimuli to operate as a rule, they must have readymade discriminative attributes (i.e., by virtue of the listener's verbal history) that do not require new conditioning in every new situation in which they appear. Rule-governance allows individuals "... to behave from the outset in accordance with contingency requirements they have never before encountered" (see Andronis, 1991, p. 230).

When a rule is presented in complete form, it may be seen as a *prescription*-moral, practical, or juridical (see Reese, 1989, for an analysis of normative forms of rules). In a behavior-analytical frame, a rule specifies the three-term contingency: the interdependency between three components-antecedent stimulus, behavior, and consequences. As will be illustrated next, sometimes the rule can be incomplete in that the consequence for the behavior is not specified explicitly or not specified at all. In such instances, the consequent stimuli are implicit in the verbal statement presented to the subject (i.e., the subject has a history with components of that or similar statements).

To illustrate this distinction between direct-contingency shaped and rule-governed behavior, consider the case of two siblings fighting. One of the children is hurt as a *direct* result of engaging in the fight and the other gets away with what he originally demanded. Due to the consequences for fighting (punishment for one, reinforcement for the other), it is likely that both children would modify their behavior in subsequent disagreements (e.g., the hurt child originally may act more submissive and the succesful child may act more dominant). These response changes may be seen as di-

rect contingency-shaped behavior (because the children experienced the consequences of their fighting). On the other hand, consider the parent saying (manding) to these children "Don't fight with each other, that's a very *bad* thing to do; if you don't stop *you will be punished*". If the children *stop* fighting right after the parent had presented such mand, the behavior is said to be rule-governed. (Notice that the *mand* specifies the consequences.) However, one can conceive of instances in which behavior that is rule-governed is not necessarily under the control of consequences specified verbally in that instruction (e.g., "you may hurt each other"). This instruction may imply consequences that are not necessarily those controlling the behavior. In other words, the children do not need to experience the consequences specified in the instruction (i.e., hurting each other) for their behavior to be modified or to stop occurring. Very likely they had experience with the same instruction in the past, they did not follow it, and their fighting was punished by the parent (e.g., by removed privilege, like TV viewing of friends visiting). In this instance, the children's' behavior is under the control of parental instruction (e.g., "don't fight") and disapproval (as stimulus control) or punishment (as the consequence for not following the instruction). In many cases, prosocial behavior can be maintained by contingencies of rule following implemented by the parent, teachers or others and not by direct/natural consequences of the action.

When behavior becomes insensitive to direct consequences

Moral rules may often override the possible effects of direct consequences produced by the behavior in question (as in the preceding example). When one attempts to control the child's behavior through instructions, the behavior might become insensitive to diverse other contingencies that could operate at a given moment through direct experience. This insensitivity of a response to direct consequences has been demostrated experimentally (Catania, Matthews & Shimoff, 1982; Kaufman, Baron, & Kopp, 1966; Lowe, Beasty, & Bentall, 1983; Matthews, Catania, & Sagvolden, 1977).

Insensitivity to direct consequences involves a relative absence of control over the response by *collateral* consequences. Collateral consequences are those produced after the behavior has been generated and that accompany, or are in accordance with, the consequences specified in the rule or instruction. According to Cerutti (1989), the role of these collateral consequences in determining the initial form of responding is minimal when the behavior is under the control of the rule because the bahavior is assumed to be sensitive to contingencies of rule following that shaped it. In addi-

tion, when accompanied by subject verbal behavior, behavioral performance under contingency control becomes more rule-governed than direct contingency-shaped (Catania, Mathews, & Shimoff, 1988; Catania, Shimoff, & Mathews, 1989).

In sum, the paradox has been noted that accompanying verbal behavior (descriptions) can make other human acts, like moral acts, less rather than more sensitive to their direct consequences. It has also been noted that rule-governed moral behavior is sensitive to contingencies only to the extent that verbal rules are consistent with them. When this is not so, the contingencies that maintain the rule may override some consequences operative on the behavior, in these cases by getting in the way (see Catania et al., 1988). That is, a moral rule (self-formulated or formulated for the individual) can be said to insulate the individual's moral actions from their direct natural consequences. (In an analysis of how self-rules are formulated, Zettle and Hayes, 1982, noted the problem of determining whether a particular self-rule governs the behavior, or whether the rule is simply a collateral response.)

The Child's moral behavior as rule-governed

When children acquire language, much of their moral behavior becomes guided by rules rather than by direct contingency shaping. Moral behavior is trained by parents, caregivers, teachers, and peers who foster empathy through modeling or who prompt and reinforce such behavior patterns as those denoting, helping, caring, kindness, sharing, responsibility, loyalty and justice.

In our analysis, the distinction between the process of shaping and coming to maintain the child's moral responses via *direct* consequences ***and*** the process of *indirect* or *remote* consequences prescribed by the rule is essential. As described earlier, in *rule-governed behavior* the child's moral actions are controlled differently. A child carrying out out a given instruction might bring on a consequence that differs from that specified by the rule to follow the action. Further, a request, instruction or command may specify behavior that implies consequences (aversive or punishing in the command, pleasant or reinforcing in the request). For instance, consider a child who has been told by the parent no to leave school settings without permission or supervision because it could be dangerous. When a group of peers attempt to influence the child to skip classes and leave the school setting to go with them, the child chooses not to do so. This child could be more concerned about the consequences of disobeying parental and school

rules than about the direct consequences of leaving the school settings with peers (e.g., having fun with them, missing classes, getting behind academically, or being on the street unsupervised). That child's behavior is actually under the control of the parental/school rules and not under the direct control of the natural contingencies. In such instances, it can be said that rule-governed behavior becomes "insensitive" to direct, natural contingencies, since *indirect* consequences of rule following acquire greater control over the child's behavior and preclude the interaction of such behavior with otherwise natural direct consequences. This is an instance in which parental rules *insulate* the child from experiencing the natural consequences of the behavior in question.

Verbal instructions to the child on how to behave in a circumnstance, in addittion may describe for the child the consequences involved for that action in that situation (i.e., collateral consequences). Parents and teachers often relate to their children the consequences of their actions in a given circumstance under the assumption that the description of the contingencies for alternative acts will produce/induce the "right" pattern of child moral behavior. One way rules may acquire meaning for the child is when the child acquires and exhibits conditioned moral actions in association with antecedent parental instructions together with verbal rationales during, or inmediately after, the behavior. An explanation given by the parents after the child's action typically specifies why the action was right or wrong (according to the parents' moral values) while reminding the child of the steps and consequences that were involved. The differential functions of verbal stimuli (in the form of a self-made rule) in the acquisition of a conditional-discrimination task has been investigated. Ribes, Penaloza, Moreno, Hernandez, and Hickman (1988) highlight the importance of *verbal recognition* by the child of *exposed* relations (resulting from prompts to facilitate the child's explicit evaluation of his/her responses, to appreciate how the responses relate to their consequences).

It is conceivable that parents'moral rationales during or after the child's acts may increase the effectiveness of a rule on subsequent occasions. A simple illustration follows: A mother says to the child contingent on an undesirable action: "Why did you destroy your sister's homework? It was *wrong* to do that. Now, you see, your sister is upset because she has to redo her homework. *Don't* ever do it again! You will not be allowed to play outside today." After several pairings of the rationale ("It was *wrong* to do that") and the instruction ("Don't" do it again") with the consequence (not being able to play outdoors), in future, when the rule precedes any action, it may influence the child's subsequent responses in that context. On new occasions, predicting the consequence would lead the child to re-

consider before acting. (In such cases, the behavior seems to be under the control of a higher-order class of self-formulated rule (e.g., "I should not destroy my sister's work. My mother says doing that is wrong and, if I do it, I won't be able to play outdoors today."

Rules stated to the child

An advantage of *explicit* verbal rules for training aspects of child moral behavior is that such rules facilitate behavior coming under the control of verbal descriptions of contingencies. This is often a more convenient training procedure than when the response in question is actually followed by direct consequences. The important feature of the explicit rule is that it *substitutes* discriminative stimuli for typical consequences of the behavior in question. Explicit rules stated by parents. teachers, and other prestigious figures can control the child's moral behavior in contexts where natural contingencies are ineffective, slow to be affective, or dangerous for the child. Also, stating the rule becomes a discriminative stimulus for the action prescribed by the rule (Bijou 1976, Catania, 1984, Schutte & Hopkins, 1970). This is particularly so when those explicit verbal instructions are given by a parent who ordinarily mediated reinforcing contingencies. The response of following a stated rule must be reinforced, at least occasionally, for the stated rule to function effectively.

Self-formulated rules

Self-formulated rules are verbalizable statements arrived at by the child. They originate from verbal statements that specify appropriate behaviors with their consequences in particular contexts. During response acquisition, they are influenced by adult verbal rationales and commentaries that specify present or future consequences of an act. Self-formulated rules are thought to develop at a later phase, when the child can describe verbally social interactions, and may emerge in a series of steps. First, a description of a given moral act may be a preliminary form of its explanation. Second, the verbalized explicit rule can become discriminative to instruct and control the child's moral responses. Third, based on an extensive repertoire of existing rules, the child may formulate or generate a new rule. New rules, implicitly formulated, can emerge via processes of *transfer, response generalization, concept formation and stimulus equivalence*. Linguistic knowledge becomes instrumental in creating, substituting and transforming the verbal contingencies into functional acts.

GENERALIZED RULE CONTROL AND RESPONSE GENERALIZATION

Generalized rule control occurs when novel class or rearrangements of the components of an earlier rule come to control effectively a behavior, even when the individual has had no experience with that new rule (Malott, 1989). Thus, due to transfer of stimulus properties, new rules come to exert control over behavior that was earlier controlled by a different rule. In those instances, some stimulus components, like words or sentences stated in the new rule, may overlap. The phenomenon of rule *transfer* can occur when the original training stimuli and consequences for the moral response are identical or very similar to those in another context. The ease with which such explicit rules are acquired is assumed to depend on the extent to which the child has experienced similar moral rules in earlier learning. Association value, meaningfulness, frequency, duration, tone and intensity are some of the variables likely to affect this process. When the transfer process is operating, the acquisition of a given moral rule may affect the acquisition of a second rule.

On mechanisms that could account for this transfer of learning is *stimulus generalization*, under which a child's moral response, reinforced in a particular discriminative-stimulus context, may occur also, over little time or few trials, in contexts *similar* to the original training context. The mechanism refers to the spread of effects to other stimulus settings when the original behavior was reinforced in the presence of one stimulus setting. However, in those new contexts, the initial response occurrences would also have to be reinforced (at least intermittently), so that the response might recur there or in similar contexts.

Response generalization (also known as induction) refers to the spread of effects to other classes of behavior when originally one class of behavior was reinforced. For instance, the way a person behaves upon a moral dilemma can have some resemblance or similarity to moral behavior reinforced in the past, but is not identical with it (nor is of the same class). There are practical advantages of instructions from parents and other adults in providing verbal stimuli that can come to control the child's behavior or following rules in a *wide* activity range.

Response discrimination. Children may also show consistent moral conduct if the range of situations that they confront is restricted to the original context of learning or to the original context of learning or to very similar settings (Hartshorne & May, 1928). In those cases, when the setting is changed, the child's moral behavior may become inconsistent. The pattern of conduct differs from one context to another when the discriminative stimuli

is different. The presence of a particular discriminative event evokes the rule that governs the behavior in question. In the same way, children learn to discriminate different contingencies associated with different adults. Particular adults can provide differential discriminative stimuli for reinforcement. The child learns to respond differentially to adults (father, mother) depending upon the behaviors that have been differentially reinforced by the adult. The child's moral behavior under the control of an adult's presence is a clear case of response discrimination. However, when there are no supervising adults in particular contexts, the child's adherence to moral practices might be a function of discriminative-stimulus similarity. As described earlier, stimuli that resemble the condition stimulus demostrate the functional capacity to evoke members of a class of operant moral behaviors, over a few occasions in the absence of reinforcement contingencies.

As the child's experiences and verbal abilities become increasingly complex, the moral behavior changes systematically, in form and content, with the discriminative stimuli that come to set the occasions for response occurrence becoming more varieated and complex. The developmental changes in the child's moral judgments and actions will result from their consequences, some of which strengthen (i.e., reinforce) new forms of moral action, while other, unacceptable forms of moral behavior will be weakened or eliminated by the punitive consequences. These changes will, of course, conform to moral practices and rules of the family and culture.

THE CONCEPT OF MORAL DEVELOPMENT

Children's moral patterns and their development are based on an extensive repertoire of acquired moral rules. Developmental level is manifested in children's understanding and compliance with such verbal rules. In the cognitive-developmental literature, such children's rule-governed behavior, and the pattern, quality, and extensiveness of the moral repertoire, are often characterized as being more or less "mature", being at a higher or lower stage level of moral development (Kohlberg, 1969; 1976; Piaget, 1932), or as having a relativistic or universal moral style of solving moral dilemmas (Kurtines, 1987). Research data on the child's changes in perceptions of, or compliance with, moral rules are often inappropriately related to a developmental *stage* level and/or to chronological *age* as explanatory causal variables. But neither stage, nor age variables provide a *causal* explanation for behavior. This is because stage refers merely to the ordinal level of the child's behavior pattern, within a sequential-classification matrix and, in itself, age manifestly indexes neither causal, nor process, variables nor ordi-

nal-classification variables, for behavior (Baer, 1970; Gewirtz, 1969, 1978; Gewirtz & Peláez-Nogueras, 1992). For process analysis within the behavior-analytical perspective, neither developmental stage nor chronological age can provide the required proximal indexes of causes or processes underlying moral development. These variables provide only incidental conceptual leverage over the sequential phenomena comprising changes in the child's moral patterns.

To conclude the preceding points, "*Morality*" may be conceived to be a system rule-governed behavior, with the developmental question being how rules (implicitly or explicitly formulated) come to acquire discriminative control over the individual's moral actions. On the basis of rule acquisition and a extensive history of contingencies, we conceive that the child eventually abstracts out a *second-order* rule, forms a *moral concept* (knowledge of stimulus atributes that control action), that can govern action in diverse contexts. The effectiveness of the acquired rule will be based on its past success in controlling the behavior in question, on how explicitly and completely it describes the current situation and the contingencies for the individual's behavior, and on how it relates to *other* currently-controlling rules.

SUMMARY

With a focus on overt behaviors that connote altruism, caring, sharing, empathy, justice, and virtue, basic operations and processes were proposed for the acquisition of moral behavior and judgments in pre-verbal and verbal children. The cognitive-developmental and behavior-analytic approaches to moral development were contrasted. Basic processes such as immediate and delayed imitation were detailed. Pervasive imitation was equated with Kohlberg's notion of "identification" as the basis for early child learning and later moral reasoning. Matching-to-sample was proposed as an efficient operant model to explain the imitative-matching behavior that occur in pervasive imitation. Direct contingency-shaped moral behavior was distinguished from rule-governed moral behavior in later development. Difficulties with this distinction and diverse interpretations that have lead to controversy in the field of behavior analysis were noted. Generalization, transfer and equivalence classes were thought to be involved in the emergence of new rules which appear to be "self formulated" by the child. Finally, it was emphasized that morality might be conceived as a system of rule-governed behavior with the developmental question being how (explicit or implicit) rules come to govern moral action.

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