

Moral Behavior and the Development of Verbal Regulation

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The present paper examines the relationship between the development of moral behavior and the development of verbal regulatory processes. Relational frame theory and the distinctions among pliance, tracking, and augmenting forms of rule governance are applied to the domain of moral behavior and its development, in order to identify the specific social and verbal contingencies that are responsible for an evolving moral repertoire. It is argued that moral behavior is controlled by relational and rule-following repertoires, and that these can be arranged into a rough progression: pliance, tracking, augmenting, social concern for pliance, social concern for tracking, and social concern for augmenting. Congruence with data derived from other research traditions is examined, and applied implications are explored.

Key words: moral behavior, moral development, rule governance, pliance, tracking, augmenting, relational frame theory

Most social problems can be viewed as problems with immoral behavior. Crime, drug abuse, domestic violence, sexual assault, racial inequality, breakdown of the family, and unsafe sex, just to name a few, are all reasonably viewed as an absence of moral behavior. Social scientists, however, are trained to avoid labeling deviant behavior in moral terms. This is so because the lay culture describes moral behavior in terms of flaws in the character of the individual who displays an undesirable behavior pattern. There is little that behavior analysts can contribute to such evaluations. All behavioral accounts are based on the history and context of psychological events, not on essential qualities of goodness or badness possessed by an organism.

It is one thing to avoid moralizing; it is another to fail to provide an account of moral behavior. To solve problems of human socialization, we need to understand how humans are socialized. Moral training is a crucial aspect of this socialization process. Many philosophers and psychologists have questioned whether it is the proper role of science to move from "is" statements to "ought" statements

(Kendler, 1993). Scientists can, however, properly move from "ought" statements to "is" statements (Plaud & Vogeltanz, 1994). In this context it is remarkable how little empirical work has been done by behavioral psychologists on the establishment and maintenance of moral behavior. With few exceptions (Commons, Richards, & Kuhn, 1982; Gewirtz, 1991), what behavioral work there is has been interpretive or philosophical (e.g., Day, 1992; Skinner, 1972).

DELINEATING THE MORAL DOMAIN

When dealing with formal, complex categories of behavior, behavior analysts usually assume that at the functional level these forms of action are based upon more elemental behavioral processes that are shared with other forms. One particularly obvious possibility in the case of moral behavior is that moral behavior is based on verbal behavior. If so, recent developments in the empirical analysis of language may provide behavior analysts with a possible empirical approach to this topic.

The word *moral* comes from a Latin term meaning "custom." In its very etymology, it seems clear that moral behavior has to do with the conventions established by social groups. Skinner

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says, "the behavior of an individual is usually called good or right insofar as it reinforces other members of the group and bad or wrong insofar as it is aversive" (1953, p. 324). From a behavior-analytic point of view, group customs are dominantly brought to bear at the individual level through verbal regulatory processes such as control by verbal rules (Kurtines, 1984, 1987). As Willard Day (1992, p. 203) said, "Clearly, for the behaviorist any concern with the realities of the ways in which we justify moral judgments is primarily a concern with an interesting and important aspect of verbal behavior."

In the cultural lexicon, we seem to apply the term *moral* under conditions in which (a) the action involved is *deliberate* (e.g., I tell the truth even though I know I could lie); (b) there are *no obvious direct contingencies* that would produce the behavior (e.g., I tell the truth even though I may be punished for it); and (c) the action has to do with what is *good, right, or proper* (e.g., I tell the truth because it is the right thing to do; see Hayes & Hayes, 1994). Together these characteristics delineate the domain of moral behavior and point to the important role of verbal behavior.

A central feature of the verbal repertoire is that it enables the individual to respond to novel competing contingencies, including apparently remote events (Parrott, 1987). Skinner (1969) identified this characteristic, noting the "defective" nature of other contingencies operating in the immediate environment when behavior is brought under the control of rules. The term *defective* highlighted Skinner's observation that introducing certain rules into an environment can overpower more immediate preexisting reinforcers. Moral behavior highlights this feature of language, because we invoke the term *moral* only when there are competing current contingencies. We would not, for example, describe an individual as moral who refrained from

stealing because he or she did not want what was there to be taken.

From a behavioral point of view, "deliberate" behavior is behavior guided by verbal formulations of the consequences of action. Similarly, doing what is "right" is inherently a matter of responding in terms of an abstract conventional verbal category. The impact of what appear to be non-immediate contingencies can be better understood as verbal functions operating in the present, due to a history of verbal training. By combining conventional characteristics with an emphasis on verbal regulation, we arrive at the following working definition, which we will follow in this paper: "Moral behavior is behavior governed by and consistent with verbal rules about what is socially and personally good" (Hayes & Hayes, 1994, p. 46). Given this approach, it seems worthwhile to analyze moral behavior in terms of the categorical concepts of modern behavior-analytic work on verbal regulation and rule governance. This paper is an attempt to do just that.

Traditional behavior-analytic accounts of language have emphasized that meaning is use (Skinner, 1945; Wittgenstein, 1967/1994). More contemporary behavior-analytic accounts extend Skinner's functional approach to include the behavior of the listener and the development of sets of derived stimulus relations that apply conventionally to speakers and listeners. Current research on verbal regulation and verbal meaning may offer the field of moral development basic empirical support, theoretical coherence, and applied implications.

THE DEVELOPMENT OF VERBAL REGULATION

We will summarize briefly our approach to the analysis of verbal events and show how this approach is linked to an analysis of rule governance. Historically this linkage has been attenuated within behavior analysis, in large part because Skinner chose to formu-

late his analysis of verbal behavior solely from the viewpoint of the speaker. Indeed, Skinner claimed that "the behavior of a man as listener is not to be distinguished from other forms of his behavior" (1957, p. 34). This assumption kept Skinner from thoroughly addressing the activities involved in understanding, that is, how it is that listeners understand the behavioral demands specified by rules (Hayes & Hayes, 1989; Parrott, 1984). His failure to include a functional analysis of the behavior of the listener meant that what it means to "specify" a contingency (Skinner, 1966) was never specified. Further, the concept of a *verbal stimulus* was defined nonfunctionally from the point of view of the listener because the category *verbal* was based on the speaker's behavior, not the listener's (Hayes & Hayes, 1989).

Relational frame theory is an alternate behavior-analytic account of verbal events that incorporates a functional analysis of both speaker and listener behaviors. In our approach, rule governance simply involves behavioral regulation by antecedent verbal stimuli. The term *verbal*, however, has a precise technical meaning.

Relational Frame Theory

Relational frame theory has been described in detail elsewhere (e.g., Barnes & Holmes, 1991; Hayes, Gifford, & Wilson, 1996; Hayes & Hayes, 1989, 1992). The core concept in relational frame theory is that the activity of arbitrarily relating stimuli to one another is an overarching operant class (Hayes & Barnes, 1997). The development of this class is due to a history of reinforcement for responding relationally, such that the act of relating events is shaped, discriminated, reinforced, and generalized. This form of relational responding is arbitrarily applicable. That is, the response is sufficiently abstracted that in some contexts these relational activities are under the control of conventionally trained contextual cues rather than the nonarbitra-

ry features of the environment exclusively. *Arbitrarily applicable relational responding* describes the essential characteristics of this form of behavior; specific types (e.g., relating events as opposite, different, same, better) are called *relational frames* (*framing relationally* would be more behaviorally precise, but ease of use in English seems to demand the noun form). Relational frames show the contextually controlled qualities of mutual entailment (i.e., a specified relation in one direction entails a relation in the other), combinatorial entailment (derived stimulus relations may be combined), and transformation of stimulus functions (the functions of one event in a relational network may alter the functions of another according to the derived relation between the two). Defining the activity of relating as the central class involved in verbal behavior, the word *verbal* thus has a technical definition: Verbal behavior is behavior whose functions depend upon participation in a relational frame (Hayes & Hayes, 1989).

It is the transformation of stimulus functions in particular that integrates verbal regulation and rule governance under the general rubric of relational frame theory (see Hayes & Hayes, 1989). As a practical example, suppose a child is trained that the written word C-A-N-D-Y is called "candy" and that the written word also goes with actual candy. We may say that the child has had two relations directly trained: C-A-N-D-Y → candy and C-A-N-D-Y → "candy." Later the child eats candy for the first time and enjoys it. We may suppose that candy has become a discriminative stimulus for approach and an eliciting stimulus for salivation and emotional responses through direct operant and classical conditioning. Now, upon hearing his mother say "candy" from another room, the child may smile, begin to salivate, and go to the other room even though (a) candy is not visible, (b) the child has no direct history of reinforcement for approach in response to the word *candy*, and (c)

candy has never been a conditioned stimulus in classical conditioning. The word *candy* has acquired some of the functions of actual candy (e.g., approach, salivation, smiling) not through a direct history, but *indirectly*, through its participation in a learned behavioral pattern of relating events to one another. The written word has been mutually related to the spoken word and to actual candy; the spoken word has been combinatorially related to actual candy; and the directly acquired functions of candy have been transformed with regard to the spoken word (in this case, we can say *transferred* because the derived relation is one of coordination).

In this way, stimuli can acquire novel functions through verbal means. As an example, imagine eating a chocolate candy bar mixed with rotting liverwurst. Few reading this sentence will have ever tasted such a combination. However, through the transformation of stimulus functions, a noxious image had been created. Some readers saw the brown bar, others smelled rotting meat, some tasted something awful, still others shuddered or said "yuck." In fact, the only stimulus that was directly presented was a sequence of inked lines, namely, c-h-o-c-o-l-a-t-e and l-i-v-e-r-w-u-r-s-t. The effects of these lines of ink on a page are discriminative-like but are probably not entirely discriminative in a direct sense, because these functions are likely to be in part dependent on the relation between these lines of ink and auditory names and classes of objects. To the extent that this is so, the word is functioning as a verbal stimulus by our definition: It is a stimulus that has functions because it participates in a relational frame (Hayes & Hayes, 1992). Rules, in this approach, are simply *antecedent verbal stimuli*. Verbal stimuli readily "specify" (Skinner, 1966), or "alter the functions" of events (Schlinger & Blakely, 1987), based on the derived relations between these events and other events.

It should be acknowledged that this definition of rules is both broader and

narrower than others, because it focuses entirely on a single core behavioral process (and thus is narrower) but does not draw a fundamental distinction among different levels of complexity of that process (and thus is broader). An example should help us make this point.

Consider an instance that all would consider to be rule governed: A person says "I'm going on vacation in two weeks and will be gone for a month. If you water and mow my lawn each week I am gone, the following month I will pay you \$100." Here we have a contingency that is thoroughly specified. There is a complex relational network that specifies a delayed antecedent condition, a contextually situated action of a given frequency, and a delayed consequence.

For simplicity we will distill the rule into the following: 2 WEEKS FROM NOW, IF MOW GRASS WEEKLY 4 TIMES, THEN \$100 AFTER 1 MONTH. This is a rule by almost every definition. It alters the functions of calendar time, the grass, and the implements needed to mow and water. It specifies all the major elements of a contingency: a temporal antecedent, a topographical form and the context in which it should occur, and the nature and delay of a consequence. The contingencies that are specified could not be effective through direct training, in part because greatly delayed consequences are simply not effective in the absence of verbal rules.

The interpretation of this rule in relational frame theory would first require the examination of the specific relational frames and the cues that occasioned them, and then the functions of events that are transformed in terms of these relations and the cues that occasioned this. Finally, the conditions that produce effective rule following would be analyzed. Several core relational frames seem necessary for rule understanding in this case. Some terms (e.g., *grass*) need to be in frames of coordination with actual classes of physical events. Before-after relational

frames, made more specific by numerical temporal terms, are used to specify a temporal antecedent and a consequence (AFTER 2 weeks mow; AFTER 1 month \$100). If-then frames are used to specify the contingent relations (IF mow THEN \$100). Terms like *mow* alter the behavioral functions of the grass, and the transformation of stimulus functions provides these actions and contexts with some of the features of the specified consequence (approach, for example).

When verbal antecedents become simpler, it is less clear that the concept of rule governance is useful, because indirect changes in the functions of the environment are less salient. For example, suppose a person asks another to "sit down." If the person does so in part because "sit down" is in a relational frame with other events (with actual sitting, for example), the process is similar to the more complex example, but it should be admitted that this kind of behavior is less complex than the earlier example, and analogous forms could be established through entirely direct means (as when a dog is told to "sit"). Skinner faced a similar problem with contingencies that were incompletely specified. At the level of behavioral process we see no reason to go beyond our very simple definition of rules, but we acknowledge that the concept is of less utility when the relational networks are limited and the transformation of stimulus functions is narrow or absent.

Rule Following: Pliance, Tracking, and Augmenting

Rule following has two requirements. The listener must have a history of reinforcement for "understanding" the content of rules, that is to say, a history of learning to derive stimulus relations. Such understanding, however, is not sufficient for rule following. Otherwise we would follow every rule we understood (Hayes & Hayes, 1989). A history of reinforcement for rule following is also required.

Currently, we have identified three functional classes of rule following: pliance, tracking, and augmenting (Hayes, Zettle, & Rosenfarb, 1989). Pliance is rule-governed behavior under the control of a history of socially mediated consequences for a correspondence between the rule and the relevant behavior. Pliance involves consequences for rule following per se mediated by the verbal community. Tracking is rule-governed behavior under the control of a history of correspondence between the rule and the way the world is arranged independently of the delivery of the rule. Augmenting is rule-governed behavior under the control of changes in the capacity of events to function as reinforcers or punishers. There are two types of augmentals: Formative augmentals establish the consequential functions of previously neutral stimuli; motivative augmentals alter the reinforcing effectiveness of stimuli with previously established consequential functions.

A body of literature exists supporting the pliance-tracking-augmenting distinction (e.g., Barrett, Deitz, Gaydos, & Quinn, 1987; Hayes, Brownstein, Zettle, Rosenfarb, & Korn, 1986; Hayes & Ju, 1993; Hayes, Kohlenberg, & Hayes, 1991; Hayes et al., 1985; Hayes & Wolf, 1984; Rosenfarb & Hayes, 1984; Zettle & Hayes, 1983). This work has been reviewed elsewhere (e.g., Hayes et al., 1989), and space precludes a detailed restatement.

Although pliance, tracking, and augmenting are units of rule following, they are based on rule understanding. One can understand a rule but not follow it, but it is not possible to follow it (if it truly is functioning verbally) unless one understands it. Understanding, in this approach, is not a mental event but an action of deriving stimulus relations. This is quite similar to a concept in the moral development literature: One can understand what is moral without being overtly moral, but it is not possible to be moral without understanding moral rules and stan-

dards (see Grusec & Goodnow, 1994, for a recent review of some of the cognitive components of morality).

This analysis gives actual overt moral behavior or moral rule following a certain behavioral primacy. Thus, in this paper we will ask the following: How far can one go in understanding moral behavior using rule following as an organizing theme? In our view, a fairly elaborate perspective can be generated by this simple step. Six basic kinds of moral behavior emerge from the pliance-tracking-augmenting distinction: three when we focus on the role of the listener and three when we focus on the role of the speaker (Hayes & Hayes, 1994). The six types of moral behavior that emerge from the three categories of rule governance can be arranged into a typical developmental sequence. This sequence is based on two factors: the conventional contingencies arranged by the verbal community, and the complexity or subtlety of the behaviors and contingencies involved. Because behavior analysts are sensitive about any hint of stages or invariant sequences, however, a few preliminary words are in order.

As an empirical matter, moral activity tends to progress developmentally and in fairly predictable ways (Walker, 1989). Typically this finding has been used to support structuralist, stage-oriented, and mentalistic models of moral development. Behavior analysts argue that these developmental consistencies are the product of relatively stable environmental contingencies that support increasingly complex behaviors (Gewirtz, 1991). According to Gewirtz, "in behavior analysis, the term *development* is an abstraction for progressive, orderly changes in the organization of environment-behavior relations" (1991, p. 1419). We define moral development as the process of acquiring increasingly complex and subtle repertoires pertaining to moral behavior.

This general framework, however, demands elaboration if it is to account for specific developmental sequences

and trends. It is not enough merely to speak in generalities about contingencies or about increasing behavioral complexity. In order to deal with the data, specific contingencies must be identified, and the reason one behavior is more likely than another must be shown. The present account attempts to do this in the area of moral behavior by linking a developmental analysis to a preexisting theory of rule governance.

Our model of moral development is analogous to the development of running. Running requires a relatively invariant sequence of component activities that build upon each other but do not result in the eradication of the component skills. An adult runner can still crawl, creep, and walk. When new behavior is acquired, old behavior does not disappear. Our approach is in no way a stage theory, but it looks somewhat like stage theories of moral development. The difference is that (a) the sequence involved emerges from environment-behavior interactions and is not inherent, invariant, structuralistic, or mentalistic; (b) behaviors are ordered in terms of the complexity and subtlety of the contingencies they participate in; and (c) new forms of moral rules do not necessarily eliminate old ones.

A PLIANCE-TRACKING- AUGMENTING THEORY OF MORAL BEHAVIOR

We will first describe the pliance-tracking-augmenting model of moral development and show why it emerges from our view of rule governance. For simplicity of presentation we will not address data in this part of the paper. Later, we will compare our approach to a few other models of moral development. Finally, we will review relevant empirical literatures that reflect on our conceptualization.

Group 1: The Moral Listener

We argue that when pliance, tracking, and augmenting involve conven-

tions regarding what is morally good, they define three functional categories of moral activity; that these functional repertoires generally emerge in sequence; and that establishing these repertoires entails the behavior of both speakers and listeners. The first group of three kinds of moral behavior focuses on the individual as listener.

Type 1: Moral pliance. Pliance is behavior under the control of socially mediated consequences for rule following per se (Hayes et al., 1989). Training pliance requires consequences that are contingent on the correspondence between rules and relevant behavior. If a child stops hitting a sibling when a parent says "Stop that" because of a history of punishment from the parent for violations of rules of this kind, the behavior is an instance of pliance. Note that the crucial issue is not whether the consequence is social but whether the social consequence is for rule following per se. Another way to say this is that in pliance the consequence is arbitrary because it is not determined by the precise form of the behavior in a given context but by the discrimination others make of the sources of control over that behavior.

Pliance is a functional, not a formal, unit of rule following, which creates several difficulties. First, it is not possible to determine whether a rule is functioning as a ply on the basis of speaker behavior. What looks like a mere description of a contingency may function as a ply. For example, the behavior change that results from a department chair telling a junior faculty member how to succeed may be due not to the description of professional contingencies but rather to an effort to please the chair. Second, it is not possible to determine whether a rule is functioning as a ply on the basis of the form of listener behavior alone. A rebellious child may do the opposite of what a parent demands in order to get negative attention, an instance of *counterpliance*. Counterpliance is still functionally pliance because the contingencies controlling the response are so-

cially mediated and are based on discrimination of the correspondence between rules and relevant behavior. In counterpliance the form of the response is the opposite of the behavior specified in the rule.

As a functional unit of rule following, it is the controlling history that defines the category of pliance. The development of moral pliance is based on a history of arbitrary socially mediated consequences for the correspondence between behavior and rules about what is good or proper. In the case of moral pliance, rule following is based on the power of rule givers and their agents (e.g., the verbal community) to differentially apply consequences to conformity. Functionally the rule is followed because of a history with "do it because I tell you to."

Pliance is the most fundamental unit of rule-governed behavior and thus of moral rule following for at least three reasons. First, unlike other forms of rule governance, pliance trains *new* social and verbal consequences that override those already present. Parents who consistently and differentially reinforce compliance and noncompliance with parental demands will tend to see behavior change when saying "stop that" to their 3-year-old. From the point of view of the 3-year-old, the statement inserts additional consequences for action that were not present before the statement was made. This makes it more likely that pliance will be learned. Second, inducing pliance in a listener often directly provides consequences for the behavior of the rule giver, and thus pliance is based on a very simple social system. If the behavior of the 3-year-old is aversive, the parent may say "stop that" as a mand. If the child complies, the source of aversive stimulation is immediately removed for the parent. The other forms of rule governance, discussed below, are based on more complex, subtle, or delayed contingencies, both for the speaker and for the listener. Third, pliance is socially adjusted. If a child fails to follow a ply, the pliance contingen-

cies are usually escalated (e.g., "I told you, NO!"). Thus, in the usual social environment the contingencies are fairly well adjusted to produce some degree of pliance as an early form of rule governance.

Without pliance we would be unlikely to follow rules in the first place. It is hard to imagine the world in which babies would not learn to respond to "no" as a ply fairly early and yet would develop robust rule governance of other kinds. Pliance helps explain how rules can induce the so-called "insensitivity" to contingencies, because rules add new verbally mediated contingencies. These arbitrary socially mediated consequences can indeed override other natural reinforcers in the environment. The rewards of hitting Suzy (e.g., sensory reinforcement, access to her toys, reduction in aversive stimulation from Suzy) may be countered by the immediate punishers that will be delivered by authorities for breaking rules about aggression toward others.

Moral pliance is the most primitive form of moral behavior in yet another sense. Moral pliance is all about authority and power. It is very concrete. It thus informs the listener very little about what is good or proper in any abstract sense. A person following the Golden Rule as a ply will "do unto others" simply because authorities will punish rule breakage or reinforce rule compliance. Yet without moral pliance (to return to our earlier metaphor, without learning to crawl), it is hard to imagine how a fully moral human could be built. Developing an ability to respond to rules is of benefit to the long-term interests of both the listener and the larger society, and this larger scheme of development is fostered by short-term reinforcers aimed at instilling simple obedience (e.g., "Don't hit Suzy, I told you not to do that!").

Type 2: Moral tracking. Tracking involves a history of correspondence between rules and the contingencies that the rules specify. Here, the rule functions as a kind of guidepost—a track—

specifying environmental contingencies that were there before the rule was stated. For example, "if you don't bring your lunch with you to school you won't have anything to eat" may function as a track. If so, the reinforcer controlling the behavior is the consequence specified in the rule, in this case avoiding food deprivation at lunchtime (to put a finer point on it, the behavior is controlled by a *history* of such consequences).

Again, this is a functional, not a formal, distinction. If the statement "if you don't bring your lunch to school you won't have anything to eat at lunchtime" functions as a ply, then the behavior is under the control of contingencies meted out for obeying the injunction. Speaking loosely, the child may fix the lunch to get Mom to be quiet. If food deprivation has some reinforcing properties, the rule may even engender countertracking. For example, anorexics may avoid bringing lunches in order to avoid temptation, or a male adolescent may avoid bringing lunches in order to have the social stimulation of begging for food from sympathetic girls.

The controlling function in tracking is, "How can I do what maximizes existing reinforcers and avoids existing punishers?" For example, following the Golden Rule as a track, one might examine one's own reinforcers in order to predict what will function as a reinforcer for others and therefore how others will respond to oneself. As a moral track, one might "do unto others" because it is more likely that others will then "do unto you."

The contingencies that support the development of tracking tend to be more subtle than in the case of pliance, for at least three reasons. First, tracking adds no new consequences to the existing situation. Thus, the density of reinforcement for following tracks is not guaranteed to be greater in a given situation if effective shaped behavior is already established. Second, because tracks (or any verbal rule) are of little functional use in situations in which re-

inforcers are direct, immediate, and predictable, tracking is usually emphasized when consequences are delayed or probabilistic. Tracking helps to solve the problem presented by delayed and probabilistic consequences primarily by restricting their relevance to certain specified actions, and thus reducing the interference that time (and thus stimulus change) presents to the functional detection of contingencies. Delay and improbability are difficult conditions for contingencies to become effective, however, even with the support of verbal relations. Finally, the contingencies in tracking are not automatically socially adjusted until behavior regulation occurs, as they usually are in pliance. Suppose a person reads in a newspaper that investing \$500 a month will produce \$500,000 in 20 years. If this accurate rule is not tracked, the newspaper will not change the rule for the reader until a savings plan is implemented. Thus, if tracking is weak it can easily stay weak. Compare that to a noncomprehending child being told to set up a savings plan by a concerned parent (a pliance situation).

The challenge in strengthening tracking is to build a history that allows behavior to be controlled by the specification of increasingly nonimmediate and probabilistic consequences. At the level of verbal understanding, these remote consequences participate in the present situation through the transformation of stimulus functions enabled by verbal relations. For example, if one is taught the rule "If you don't share, Suzy won't want to come over and play anymore," then some of the stimulus functions of Suzy playing will be present through the equivalence relations sustained between Suzy and "Suzy" and between play and "play." The rule places sharing and these consequences into a cause-and-effect, if-then relational frame. Through this relation, the stimulus properties of sharing itself may change, because sharing may begin to acquire some of the functions of

friendly play rather than the immediate aversive functions of a loss of full access to preferred items.

As relational repertoires develop, more and more subtle and delayed contingencies can come into play. The "monthly investments increase 1,000 fold in 20 years" rule above is an example. An eventual million dollars is brought into the present with each monthly payment of \$1,000: The investor can literally picture it, through a well-developed repertoire of relating events by if-then relational frames.

This is not just a matter of rule understanding. The same issue applies in actual rule following. Tracks are not literally controlled by the specified consequences (those are in the future and the future cannot literally control the present); rather, tracking is controlled by a history of contacting such specified consequences in the past. This presents a special challenge when dealing with nonimmediate and probabilistic consequences, which is much more likely in tracking than in pliance. The tracks given to young children describe quite immediate consequences, only minutes away. Gradually, more and more delayed consequences can be specified and still be effective, but the transition must be gradual and the environment must be sufficiently predictable. Many children may not be exposed to enough verbal training or to the safe and secure environments in which transition is likely.

For example, consider the rule "oh what a tangled web we weave when first we practice to deceive." The immediate effects of lying are dominantly positive. The verbal community initially competes with this fact through moral pliance, which sets the stage for moral tracking. The moral track above specifies a longer term, natural consequence of lying: As it continues, it is more and more difficult for the liar to recall what was said and to maintain consistency with a deceitful story. This "tangled web" can be quite aversive, and the rule nicely specifies the delayed effect. But a moral track of this

kind must be stated by the social community, and the child must be prepared to learn it effectively by a history of credible rules actually predicting long-term consequences.

Moral tracks eventually describe contingencies that cannot even be contacted in a lifetime, such as how certain forms of behavior lead to heaven. In this case, however, the "consequences" are entirely verbal. For moral tracks of this kind to work, the third form of moral listener behavior is needed.

Type 3: Moral augmenting. The term *augmenting* refers to a changed or heightened state of affairs—in this case, a change in the ability of events to function as reinforcers or punishers. Augmentals are verbal antecedents that establish consequences or function as establishing stimuli (Michael, 1982) for them. They do not change the probability of reinforcement contingent on particular behavior, nor do they describe existing contingencies.

We distinguish between two types of augmentals. *Formative augmentals* establish the effectiveness of new consequences (Hayes et al., 1991). For example, a person may learn that *bueno* is *good* in Spanish and that *bon* is *bueno* in French, and may then respond to *bon* as a reinforcer. This is not mere conditioned reinforcement, because *good* and *bon* have not been consistently paired. Rather, the two words are related (in this case, in an equivalence class). Thus, the rule "*bueno* is *good* in Spanish and *bon* is *bueno* in French" is a formative augmental if it leads to consequential functions for the previously neutral terms *bueno* and *bon*. *Motivative augmentals* are verbal establishing stimuli. In this case, the consequential effectiveness of previously effective consequences is temporarily altered (Hayes & Ju, 1993). Again, because the future does not literally influence the present, it is more precise to say that the functions of antecedents relevant to these consequences are temporarily changed.

It is at the level of moral augmenting that one first sees a real focus in moral

rules about precisely what *is* good and proper. Augmenting is most important for the establishment of abstract consequences such as fairness, justice, peace, or righteousness (Hayes & Hayes, 1994), and for the motivation to work toward such verbal ends.

Formative augmenting. Formative augmenting is the relational analogue to conditioned reinforcement or conditioned punishment. At the simplest level, verbal terms are placed into simple relational frames with existing consequences, as in the "*bon* means *bueno*" example above. They need not be frames of coordination, however: "*Bon* is the opposite of *bad*" might work as well. Formative augmentals of this kind enable the functional substitution of consequences via the transformation of stimulus functions from previously contacted consequences. Formative augmenting establishes verbal reinforcers (and punishers), where *verbal reinforcer* is used as a technical term referring to events that function as reinforcers because of their participation in relational frames.

At a higher level, formative augmentals involve increasingly complex and abstract relational networks. Honor, patriotism, duty, nobility, valor, and so on are not in simple equivalence classes with existing reinforcers; rather, they describe entire patterns of derived relations. This is part of what is meant by *abstract* consequences. Because of its conventionality and arbitrariness, verbal behavior is remarkably free to vary in form, without the burden of additional coproximal stimulus functions carried by concrete objects (Hayes & Hayes, 1994). This allows great refinement of stimulus properties of verbal events, as a given term is modified by multiple relations with multiple terms.

Augmentals interact with plys or tracks either by establishing a motivational context for particular reinforcers (motivative augmentals) or by permitting the functional substitution of consequential terms in tracks and plys (formative augmentals). Higher level moral tracks often seem to require aug-

mentals, because otherwise moral tracks have a self-centered quality as they refer to concrete existing reinforcers. For example, consider this statement: "Honor. Patriotism. Valor. Join the Air Force." "Join the Air Force" may function as either a ply or a track, but if the person joins in order to achieve honor, patriotism, and valor, the instance of rule following is tracking based on previous formative augmentals that gave rise to honor, patriotism, and valor as desirable conditions. Without formative augmentals, moral tracks lose much of their appeal as moral guides: "Money. Power. Neat uniforms. Join the Air Force."

According to our developmental conceptualization, augmenting is the most complex or "highest" version of listener-based moral behavior. Augmenting is a highly abstracted verbal process. Relational responses must have been learned that allow patterns of ascribed verbal qualities to be linked to given consequences. For example, the pattern of qualities involved in a term such as *justice* requires an exposure to both consequential functions contingent on this concept and to multiple contexts in which particular relevant verbal qualities were present (e.g., the Civil War, World War II, sharing with friends, due process, rights and responsibilities, etc.). Once this history is in place, the relevant pattern of abstracted properties that are linked to the term *justice* may transfer to an unfamiliar context (e.g., passage of anti-immigration laws that deny social and educational services to immigrant children). In this case, verbal rules about justice could be brought to bear on the new law, such that stimulus functions associated with *justice* become psychologically present.

The Golden Rule followed as an augmental suggests that the listener cares about the feelings of others, and then tracks *that* consequence based on the predictions made from one's own reactions. As a ply, one follows the Golden Rule because one was told to; as a simple track, because good things

will happen; it is only as an augmental that one follows the Golden Rule because caring about others is right and ethical. Once one cares about others, the Golden Rule can function as a track at a higher level (i.e., in combination with an abstract consequence).

Pliance is reinforced by instrumentality with regard to rule givers and authorities; tracking is reinforced by instrumentality with regard to existing environmental contingencies. Augmenting changes what is at stake in the first place. Some might argue that so-called moral activity below this level does not truly constitute moral or ethical behavior at all, because it is only at this level that what constitutes a "good" is directly addressed.

Motivative augmenting. Motivative augmenting temporarily changes the effectiveness of existing consequences. This might occur in a number of ways. One of the most important is to present some of the stimulus functions of a given consequence. For example, detailed descriptions of tasty food may function as a motivative augmental for operant behavior that can give rise to the real thing. Many commercials seem to operate on this principle. Hearing "Two all beef patties, special sauce, lettuce, cheese, pickles, onion, on a sesame seed bun" in a car is unlikely to lead to pliance, because there is usually not an authority monitoring these rules and providing consequences for compliance with them. It is unlikely to influence behavior as a track, because the probability of reinforcement for ordering a Big Mac is not increased in the presence of the commercial, and once a person has learned where to go and what to order, the commercial adds nothing to the existing contingency. The statement may, however, function as a motivative augmental, by presenting some of the emotional or perceptual stimulus functions of available consequences via the transformation of stimulus functions through derived stimulus relations (see Dougher, Augustson, & Markham, 1994, for an empirical example). The person hearing

the commercial can to some degree see, smell, and taste the hamburger. In essence, the behavioral effect is much like the nonverbal process of reinforcement sampling: A small taste of a consequence tends to function as an establishing operation for operant behavior linked to that consequence.

Another way that motivative augmentals work is that a consequence will be verbally linked to other consequences of existing importance. This is like the process involved in formative augmenting, but it is built upon an existing consequence of importance. As more and more is at stake, the importance of a particular consequence builds verbally. Consider a minister delivering a sermon on "moral integrity." The sermon may link this abstract consequence to the importance of honesty, the costs of lies, the importance of marital fidelity and the cost of infidelity, success in business, success in relationships, being an example to children, and so on and on. A complex network of verbal relations is built so that "moral integrity" becomes linked to more and more things that a person already cares about.

As in this example, in the moral area motivative augmentals are probably most important when they are linked to formative augmentals or to tracks based on formative augmentals. The kinds of verbal consequences that are established by formative augmentals are often highly abstract, remote, or probabilistic. These are precisely the kinds of consequences that it is easy not to care about in a given instance, especially when they are in competition with other more concrete consequences. Motivative augmentals help to bolster the effectiveness of these moral "goods."

Consider the example of patriotism. Getting people to care about their country involves rituals, symbols, ceremonies, songs, holidays, institutions, and emotional appeals. All of this moves *patriotism* from the dry dust of a mere verbal concept to something worth fighting and dying for. Speakers

at a Fourth of July rally may invoke past wars and sacrificed loved ones, visions of community and caring for family and friends, verbal concepts such as freedom or justice, or the flag as a proud symbol of country. The speaker may point to past evils conquered in the name of country (e.g., Hitler, communism), and "God Bless America" may be sung. A good speaker may leave barely a dry eye in the house with this kind of work—and all with the abstract verbal concept of patriotism. Such a speaker can literally send a country to war and thousands of young people to their death—and all with the abstract verbal concept of patriotism. These speeches, songs, and rituals are dominantly motivative augmentals. They seem to rely on both principles discussed above: presenting some of the direct emotional or perceptual stimulus functions of the consequence (e.g., invoking images of a dead soldier who died to protect his country) and building the verbal centrality of a concept (e.g., linking patriotism in a frame of coordination with the value of family or in a frame of opposition with the evils of alternative political systems).

Summary of Group 1 moral behaviors. Children tend to learn pliance first, both because it is advantageous to the verbal community that they do so and because the additional consequences provided in pliance help to establish rule governance. Once pliance is occurring, rule givers can begin to socialize the child in terms of what is good and proper. It is not a large step from saying "no!" to a 10-month-old to saying "no hitting!" to a 2-year-old. Tracking does not add new consequences, but instead helps the child to make effective contact with the world as it is, especially when consequences are remote or probabilistic. Formative augmenting establishes new and more abstract verbal consequences that are based on entire verbal networks. Motivative augmentals help to build the importance and emotional quality of these abstract consequences, and moral

tracks can then be linked to them. With all three forms of rule governance in place, fairly high levels of moral behavior are possible. New "goods" can be established, and ways of producing these goods can be specified and tracked. But Group 1 moral behavior is not enough for a social group or culture. It is not enough to have moral listeners. Cultures must also have moral speakers.

Group 2: The Moral Speaker

The role of the speaker in social interchanges is to establish contingencies for rule following on the part of the listener. Thus, in this second group of moral actions, what is at issue is the development of the rule systems that shape or influence the listener's moral behavior. Thus, we shift from rule following to rule generation, from the listener to the speaker, and from the individual to the social system.

We argue that moral speaking involves a concern with establishing pliance, tracking, and augmenting in others. A progression is much less evident in the speaker categories than in the listener categories, but the behaviors can be ordered in terms of the subtlety of the contingencies that support them. Group 2 moral activities as a whole require substantial development of Group 1 moral activities. The reason for this is simple: A concern for systems that support rule following is itself a concern for an abstract verbal consequence, and thus a rule-following repertoire is assumed in these forms of moral rule giving.

Type 4: Social concern for pliance. Moral behavior of this sort is oriented toward the establishment of pliance in others participating in the social group. At this level, pliance itself is the "good" specified by this form of moral activity. A social concern for pliance manifests itself in such things as concern over establishing obedience to the law, getting children to mind their parents, or making sure that adolescents respect authority. Merely issuing de-

mands is not what we are discussing: A 2-year-old does that quite well, and it is in no way "moral" behavior. Rather, in this kind of moral activity, what is at issue is concern over the social system (within the family, group, or culture at large) that tends to establish and maintain pliance in others. Active attempts are made to establish and manipulate the social system so that pliance will occur. For example, law and order are often argued to be a bedrock of society: These very arguments are an example of Type 4 moral behavior.

This is the most readily available form of Group 2 moral activities, because of the function of this behavior for the speaker. Just as mands involve states of deprivation or aversive stimulation for the speaker, concern for inducing pliance in others is linked to contingencies that can affect the speaker directly. Voting for a law-and-order judge may be motivated in part by an interest in removing thugs from the street. Supporting a law cutting off welfare recipients who fail to work may ease the tax burden.

Type 5: Social concern for tracking. Moral behavior of this type is oriented toward the establishment of tracking in others or in the social group as a whole. The good specified by this type of moral activity involves helping individuals to consider the long-term consequences of their behavior, or to act reasonably and rationally. For example, a speaker may try to get adolescents to consider the long-term personal effects of drugs, violence, or sexual promiscuity. The focus is not on mere compliance with authority. The focus is on establishing enlightened and rational self-interest in others.

A social concern for tracking emphasizes long-term and probabilistic consequences of action, because it is only in these conditions that there is a need for tracking in the first place. The consequences of working toward the establishment of tracking in others are themselves long term and probabilistic, and thus the contingencies supporting this kind of moral behavior are more

subtle than those supporting a social concern for pliance. For example, suppose a childless person supports the construction of new schools on the grounds that educated children will be more rational and effective citizens. School construction may actually cost this individual adult (e.g., through tax increases), and any positive benefits will be long term and probabilistic. Type 5 moral behavior is based on a kind of social contract in which teaching others to track will benefit them, but will eventually pay off for all.

Skinner addressed this issue in a chapter entitled "The Ethics of Helping People" (Skinner, 1978). Skinner described the behavior of speakers interested in promoting ethical behavior in terms of managing positive reinforcement so that it is maximally effective in promoting self-reliance (p. 38). He suggested that it is necessary to give such positive reinforcement contingently, in order to avoid both superstition and satiation. How the helper's behavior contributes to the good of the helpee is not determined, according to Skinner, by how much the helper gives in goods, but by how that which is given affects the future behavior of the helpee. He says, "the 'good life' is not a world in which people *have* what they need; it is one in which the things they need figure as reinforcers in effective contingencies" (p. 44). These ideas constitute a very good example of Type 5 moral behavior. Skinner is defining ethical helping as that which establishes nonarbitrary instrumentality and self-reliance.

Type 6: Social concern for augmenting. Moral behavior of this final type is oriented toward establishing effective abstract verbal consequences in others or in the social group as a whole, and increasing the motivation of others to work toward such consequences. Examples include "How can we induce people to care about discrimination?" or "How can we establish a society that is based on equality?" The difference between Type 3 and Type 6 moral behavior is that in

one case the listener cares about an abstract consequence, whereas in the other the speaker cares that the listener cares about such consequences. Much of the writing of moral philosophers and researchers is Type 6 moral behavior.

The contingencies that support this type of moral behavior are likely to be the most difficult to establish, in part because they are extremely abstract and in part because the benefit to the speaker is indirect or even unpredictable. The verbal consequence being pursued by a social concern for augmenting is that people care about abstract verbal consequences. If they do, the benefits to the speaker are dominantly verbal: One gets the satisfaction of knowing that others care about justice, God, egalitarianism, or whatever. This does not necessarily mean that the speaker will benefit. Indeed, training people to think for themselves in accordance with abstract principles may make them *less* susceptible to group norms and exchanges. Many parents have found that teaching children to care about honesty leads to challenges over small matters of parental honesty ("Did you take that pencil from the office Mommy? Did you pay for it?"); teaching children to care about health leads to similar challenges in that area ("I saw you smoking outside last night Mommy. I thought you promised you would quit."). Yet parents often work to teach their children to care about such things.

COMPARING A PLIANCE-TRACKING- AUGMENTING THEORY OF MORAL BEHAVIOR WITH TRADITIONAL CONCEPTS

Research on moral behavior in other experimental literatures has typically been organized into two general wings: empathy (including perspective taking or role playing) and moral reasoning (Eisenberg & Miller, 1990). From our perspective, the verbal regulatory pro-

TABLE 1

Comparison of pliance-tracking-augmenting theory with Kohlberg's stage theory

Pliance-tracking-augmenting theory	Kohlberg's stage theory
Pliance	Punishment and obedience
Tracking	Instrumental exchange
Augmenting	Interpersonal conformity
Social concern for establishing pliance	Law and order
Social concern for establishing tracking	Social contract
Social concern for establishing augmenting	Universal ethical principles

cesses that lie at the heart of socialization are present in both of these wings. Moral reasoning is perhaps most obviously a highly verbal process. However, we argue that empathy and perspective taking or role playing are also distinctly language related.

Kohlberg and Moral Reasoning

Kohlberg is perhaps the most influential of the modern moral development theorists. Kohlberg relied on structured clinical interviews, which have been revised numerous times and currently show good reliability and validity according to traditional psychometric standards (Colby & Kohlberg, 1987). A recent review of studies comparing moral reasoning in matched samples of juvenile delinquents and normal adolescents found that data from 22 out of 28 studies using Kohlberg's model showed correlational support for the hypothesis that juvenile delinquents are more developmentally immature in their moral reasoning than nondelinquents (Smetana, 1990).

Kohlberg concluded that there are universal stages of moral development that are consistent across cultures, as demonstrated by replications in India, Britain, Honduras, Taiwan, Mexico's Yucatan region, Israel, and Canada. Each stage represents an organized system of thought, and individuals function at a specific stage at least the majority of the time, regardless of the moral dilemma presented. These stages, shown in Table 1, range from

the most primitive, in which rules are obeyed in order to avoid punishment, to midlevel stages in which a child (or adult) conforms in order to avoid disapproval or acts in accordance with the belief that right behavior means doing one's duty and adhering to the rules of society, to a stage in which morally correct acts are a function of conscience in accordance with universally applied ethical principles (Kohlberg, 1981, 1984).

Kohlberg's analysis of his findings was based on underlying structural-developmental assumptions (Kohlberg, 1981, p. 72). Accordingly, he concluded that his studies demonstrated an invariant sequence of development that was not subject to cultural relativism. Each stage in Kohlberg's theory represented a more evolved form of judgment because, in his view, each step came ever closer to meeting the prerequisites of morality such as impersonality, universalizability, ideality, and preemptiveness (Kohlberg, 1981, 1984). This moral evolution was inherent and inborn, and required merely a supportive environment rather than specific training to unfold.

Comparing the present analysis with Kohlberg's, his Stages 1 and 2 (see Table 1) correspond fairly closely to pliance and tracking. His Stage 3 (interpersonal conformity) does not have a clear parallel in our theory, although it could be interpreted as a form of pliance that emerges when peers rather than parents become the relevant mediators of reinforcement, or as a form

of broadly socialized tracking. Our Type 3 (augmenting) does not seem to be clearly delineated in his system. His Stages 4 through 6 map fairly closely onto our Types 4 through 6, however. That is, his "law and order" stage looks rather like our "social concern for pliance" activity; his "social contract" stage looks something like our "social concern for tracking" activity; and his "universal ethical principles" stage seems to overlap with our "social concern for augmenting" activity. Unlike Kohlberg, however, our approach is explicitly historical and contextual and is based on an existing behavioral theory of rule governance. There are no stages in our approach, although there are certain expected arrangements that emerge from normative environments. We did not arrive at this perspective from first studying moral behavior per se (or Kohlberg's theory for that matter). However, because of the remarkable correspondence between the two theories, the data supportive of Kohlberg provide some indirect support for our approach.

Empathy and Perspective Taking

Research in positive social behavior has emphasized the importance of empathic responding and perspective taking or role playing as an essential factor in children's positive social behavior. In a meta-analytic review by Underwood and Moore (1982), there was a significant positive relationship between the ability to infer another's cognitive or affective state and positive social responding. In addition, meta-analysis of the empathy literature has uncovered a significant positive relation between empathic responsiveness and positive social responding (Eisenberg & Strayer, 1987). These two research branches are logically linked. The process of acquiring what we define as empathy or empathic responding requires a history of reinforcing sensitivity to the contingencies another is facing. This in turn requires the discrimination of the cues regarding both the

contingencies acting upon the other and the current consequences for responding discriminatively. In other words, socialization must train us both to notice and to care about another's experience.

We have argued previously (e.g., Hayes, 1984; Hayes & Wilson, 1993), as have others (e.g., Dewey, 1925/1987), that perspective taking emerges as a natural side effect of verbal training. The verbal community establishes a sense of "I" as a perspective, because it is important that verbal report occur from a consistent locus or point of view. Thus, self-awareness involves not only responding verbally (relationally) to one's own behavior, but doing so from a consistent locus. As this sense of perspective is acquired, it is distinguished from the perspective of others. Thus, by extension, some forms of self-awareness provide a means to discriminate how others may respond. The Golden Rule, for example, is a rule about perspective taking: Assume that others will view what is done to them the way you view what is done to you and act accordingly. This rule is of little use, however, without the motivational impetus of empathy.

Empathy builds on these same verbal processes. Some emotional responses are phylogenetically established (e.g., aversive events produce aggression in all complex animals). Some researchers include in their definitions of empathy responses based on phylogenetic contingencies (Plutchik, 1987), or classical conditioning in very young children linking cues of another's distress to the child's distress (Thompson, 1987). However, these respondent functions are built upon by operant conditioning, in particular by derived stimulus relations. It is unlikely, for example, that the aggressive responding of a frustrated monkey is identical to the aggressive responding of a narcissistically wounded adult human. Just as it is easy to pucker when talking about a lemon, it is easy to feel sad when talking about a death. The emotional effects are often quite indirect,

based on the transformation of stimulus functions through derived stimulus relations. The combination of this verbal form of empathy with perspective taking means that it is possible at times literally to feel another person's pain. The combination of these two repertoires provides the means to predict and to care about another person's private events.

There is an ongoing debate over the relative proportion of "affective" and "cognitive" components in empathic responding (Eisenberg & Strayer, 1987; Hoffman, 1987). From our frames perspective, such categories are conventional and descriptive rather than technical. The environment provides the contextual cues that occasion both the form of derived stimulus relations and the functions that are transformed through them. Cognition (knowing by derived stimulus relations) and affect (the emotional functions that can result) are integrated in the complex behavior of verbal organisms. A number of other researchers in moral development have also identified the need to integrate these domains (Gibbs, 1987; Gilligan & Attanucci, 1988; Walker, 1989).

EVIDENCE FOR A PLIANCE-TRACKING- AUGMENTING THEORY OF MORAL DEVELOPMENT

A large body of literature exists on moral behavior, but little of this work is behavioral. For this reason, evidence for the current perspective on moral development must be drawn from research from many other traditions. In the sections below we will describe several lines of evidence that appear to us to bolster the current perspective that emphasizes the development of verbal relations and verbal regulation. These research lines have not been organized by a behavioral conception, however, and thus we will have to describe the evidence in a somewhat disjointed fashion. A fully integrated

story will depend upon more behavioral research into the area.

Evidence for the Primacy and Importance of Pliance

Several lines of evidence support the importance of pliance in moral development. The literature on the development of antisocial behavior indicates that the costs of failing to train pliance in children are high. A keystone in developing antisocial patterns of behavior is failing to maintain adequate compliance "It [the process leading to antisocial behavior] begins because parents have not been able to maintain a moderate level of child compliance" (Patterson & Bank, 1989, p. 169). As an empirical matter, maintaining compliance requires two things: discipline and monitoring (Loeber & Dishion, 1984; Patterson, 1987; Patterson & Bank, 1989). These make sense from our analysis of pliance: it is not possible to deliver consequences for rule following without carefully monitoring the correspondence between the delivery of rules and the behavior that follows. Furthermore, in order to make that correspondence important to the child, consequences must be delivered reliably and contingently. The parents must discipline the child appropriately. Parents who fail to consistently follow through with consequences for children's behavior tend to resort to ineffective, coercive styles of relating. In response, children exhibit noncompliant and ultimately coercive patterns of behavior.

The more general findings that family interaction patterns correlate highly with antisocial behavior in children (Baumrind, 1971, 1987; Loeber & Dishion, 1984; Patterson & Bank, 1989) and that parent training is an effective intervention strategy for decreasing child antisocial behavior (Kazdin, 1987) fit with our conception of the centrality of moral pliance. Parents who have warm, nurturing relationships with their children, and who also establish and maintain high demands

for compliance, in general rear socially responsible boys. Interestingly, parents who are either overly permissive and fail to maintain high demands for compliance or parents who are overly authoritarian and administer demands in a punitive fashion in general rear boys who exhibit less socially responsible behavior (Baumrind, 1971, 1987; Eisenberg & Miller, 1990). The former style cannot establish pliance; the latter style may establish counterpliance (or "reactance"), which will prevent an easy transition to moral tracking as children fail to contact the longer term consequences upon which tracking is built. Even if severe punishment does not lead to counterpliance, it may undermine the initial links in training empathic responding, and thus impede the transition to an important form of moral tracking. Children may fail to learn to bring their behavior sufficiently under the control of the contingencies related to another's experience if they are overly responsive to the stimulus value of the authoritarian rule giver (Hoffman, 1963, 1987). Similarly, male adolescents with behavioral problems tend to have parents who are more in conflict, have more disagreement about child rearing, neglect teaching functions, assign infrequent chores, and make few demands for achievement (Vaughn, Block, & Block, 1988). All of these factors undermine pliance. Conversely, pliance is increased if the social responses of parents are powerful reinforcers for children. In fact, positive involvement with parents, particularly in the form of maternal conversation, correlates with compliance (Kuczynski, 1984; Petit & Bates, 1989).

Evidence for the Need for Tracking

Sensitivity to contingencies mediated by authorities takes moral behavior only so far. Moral tracking involves an increasing sensitivity to control by direct consequences of actions for oneself and others. Failure to develop appropriate tracking is a possibility in un-

stable environments. When verbal statements of contingencies fail to predict the specified events, the likelihood of behavior coming under the control of correspondence between descriptions of events and the events themselves is weakened. For example, Garbarino, Kostelny, and Dubrow studied families in refugee camps in the Sudan and in the slums of Brazil. Without strong parental support and stability, in conditions of extreme social instability "the development of young children deteriorates rapidly and markedly . . . [and] moral development may be compromised" (1991, p. 380). Children who are "resilient" in typically destructive environments generally have a parent or some other adult figure who provides some type of consistency and emotional support (Egeland, Carlson, & Sroufe, 1993; Garmezy, 1983).

A number of researchers have identified the function of parental inductions (e.g., appeals to a child's affection or respect for others, reminding them of the consequences of their behavior) in positive social behavior (Sanitvale, Saltzstein, & Fish, 1989). These inductions, which provide the verbal raw material for moral tracking, are positively correlated with moral behavior such as acceptance of responsibility or consideration for other children (Hoffman, 1963; Zahn-Waxler, Radke-Yarrow, & King, 1979). As children develop, mothers are more likely to respond to a moral transgression by emphasizing the consequences of the child's acts for others (Smetana, 1989, 1990).

Moral tracking involves the generation of moral tracks as well as following them. Subjects in their middle elementary school years who were paired with peers to work on discussions of two moral dilemmas scored higher on moral reasoning at posttest than did subjects who were paired with adults. Mutual engagement in exploratory dialogue around moral dilemmas predicted higher posttest scores, whether it occurred with peers or adults; however, the opportunity came

up more often in the peer interactions (Kruger, 1992). This suggests that the development of more sophisticated levels of moral tracking is fostered by practice in tracking contingencies, which in turn is fostered by exposure to proper social contingencies. With intelligence, socioeconomic status, ethnicity, and other factors controlled, antisocial children show less developed moral reasoning skills than normal children (Smetana, 1990). Said another way, antisocial children have not learned moral tracking as well.

Kohlberg has attempted to identify the "atmospheres" of communities that support moral development (Kohlberg & Higgins, 1987). "Democratic" atmospheres entail student participation and decision making, in particular working out real-life moral dilemmas through discussion with peers and teachers. These atmospheres are exactly the kinds of settings in which moral tracking should develop. In a study involving alternative and normal high schools, democratic atmospheres in the alternative schools correlated with higher stage reasoning on the part of students (Higgins, Power, & Kohlberg, 1984).

The level of children's moral reasoning is predicted by the moral reasoning level of their parents (Holstein, 1973). Walker and Taylor (1991) found that parental discussion style, task context, and level of moral reasoning (as measured on Kohlberg's Moral Judgment Interview) predicted children's moral development over a 2-year longitudinal study. Parental behaviors that were predictive included (a) interactions characterized by "behaviors such as eliciting the child's opinion, asking clarifying questions, paraphrasing, and checking for understanding—reminiscent of the Socratic style of questioning" (1991, p. 280), and (b) supportive interactions, characterized by "humor, listening responses, praise, and encouragement to participate" which "set a positive atmosphere for discussions" (p. 281). In addition, parents who maintained higher levels of moral be-

havior in their interactions with their children and adjusted this difference so that the disparity was not too great produced more moral behavior. This cluster of behaviors essentially describes an effective shaping procedure: Supportiveness (i.e., effective conditioned social reinforcers) and representational styles (i.e., evoking verbal behavior on the part of the child and providing him or her with responsive feedback) should lead to more pliance and tracking. Maintaining a disparity of stages between parents and children, with parents adapting to the child's stage, provides for consequences contingent on approximations of increasingly moral responding.

Tracking involves verbal purpose or intention (Hayes & Wilson, 1993) in the sense that rule following is coordinated with verbally described consequences. As moral tracking develops, children should learn to distinguish the verbal consequences that are being sought in tracking from those that may actually later occur. This change has been suggested by others (Piaget, 1970), and as an empirical matter children change from basing moral judgments on outcomes of actions to basing such judgments on the intentions of the actor (Keasey, 1977; Sanitvale et al., 1989). Accurately attributing intentionality as opposed to just outcome requires sensitivity to a host of subtle social cues. Conduct-disordered boys have a harder time predicting the outcomes of actions and cannot as readily discriminate the purposes of actions (Dodge, Murphy, & Buchsbaum, 1984). Compared to disruptive children, normal children put greater emphasis on the foreseeable outcomes of moral actions and any extenuating circumstances that might affect the interpretation of an actor's intentions (Sanitvale et al., 1989).

Evidence for Moral Augmenting

Moral augmenting is a highly verbal process, which supports the development of abstract consequences. As an

empirical matter, it is clear that moral development eventually becomes highly associated with social-cognitive development as indicated by years of education (Colby, Kohlberg, Gibbs, & Lieberman, 1983; Rest & Narvaez, 1991). This makes sense if education leads to greater importance for more abstract consequences. There is evidence in support of the importance of increasingly abstract cognitive skills in the moral development of adults (Commons et al., 1982).

This process has a relatively early beginning, and occurs not long after moral tracking appears. There is a shift from material and primary consequences to social and secondary consequences in the moral behavior of children. For example, in the second grade, children "expected an immediate, concrete, external reward" for moral conduct but in the eighth grade, most of the children expected either an internal reward or a "nonconcrete, undefined external reward" (Bar-Tal, Sharbany, & Raviv, 1982, p. 389). Similarly, children explain their own helping behavior in increasingly abstract ways as they get older, and levels of actual helping behavior are correlated with these changes (Bar-Tal et al., 1982).

Examination of the behavior of highly moral individuals provides evidence about the social context in which abstract consequences may become important. For example, those who work for social causes were more likely to have warm relationships with their parents and parents who were fully committed themselves to altruistic activities (Hoffman, 1987).

The development of control by abstract consequences is a long-term process, which fits with a relational frame account of the development of highly abstract concepts. For example, few undergraduates show evidence of systematic or metacognitive reasoning, as measured by analyzing moral story problems, whereas graduate students do show such evidence (Commons et al., 1982; see also Richards, 1982;

Richards & Commons, 1982). Such reasoning is dependent upon the derivation of relations among systems of relations. Similarly, Gibbs (1992) describes the progression of moral development as "related to cognitive decentration, that is, the attending to and interrelating of situational features or perspectives" (p. 234).

Evidence Regarding Social Concern for Pliance

We have already reviewed considerable evidence showing that parents who have appropriate concern for the establishment of pliance in their children tend to produce higher levels of moral behavior. Type 4 moral behavior seems most effective when fully integrated with Type 5 and Type 6, simply because the targets of these speaker behaviors are all significant. However, when Type 4 becomes an end in itself, it can produce problems if it is excessive or is focused on adult behavior to the exclusion of an interest in tracking and augmenting. Particularly after World War II, there was a wave of interest in authoritarianism, which is characterized by an excessive emphasis on the value of obedience to authority (Adorno, 1950). Milgram's studies on obedience are one example of this interest (Milgram, 1974). Type 4 moral behavior tends to be self-perpetuating, at least for a time, because it is known that authoritarian environments breed both compliance and more authoritarian speakers.

The source of the problem with Type 4 moral behavior that becomes disconnected from an interest in tracking and augmenting is that the feedback loop between speaker and listener can lead to coercive and abusive attempts simply to establish pliance in others. This produces significant social costs, such as constant efforts to avoid counterpliance. Social control may be most efficient when citizens do not require constant coercion (Carlson, 1985). The collapse of communism provides an example. Although Marx-

ism in the abstract is a Type 6 moral position, its practical implementation quickly led to a "dictatorship of the people" in which the focus was on social coercion of the topography of communal concern. The costs to the society of maintaining a totalitarian state eventually contributed to the collapse of the system.

Evidence for Social Concern for Tracking

This type of moral behavior is focused on integrating the needs of the individual with the needs of the social group as a whole. Speakers concerned with establishing tracking are themselves tracking the long-term social effects of moral behavior. For example, the dissemination of widespread parent-training movements reflects in part a social concern for tracking. In these programs, parents are typically encouraged to predict behavioral consequences and then to allow children to contact those consequences directly (Gordon, 1970; Kaye, 1984; Popkin, 1990), in other words, to become better trackers of their children's behavior. Unfortunately, parents who are particularly likely to drop out from these programs are also likely to be poor trackers themselves. Herbert (1987) reports that these parents show, among other behaviors, "an inability to report or track children's interactions objectively and specifically" (p. 112).

In general, using the products of science as a moral guide is evidence of Type 5 moral activity, and thus most forms of behavior therapy and behavior analysis fit this category. When behavioral technicians intervene to change the long-term probability of a parent's positive social behaviors, they are showing a social concern for the establishment of tracking (e.g., Rohrbach, Hodgson, Broder, & Montgomery, 1994; Sanders, 1992; Wright, Stroud, & Keenan, 1993). Skinner in *Walden Two* (1948), for example, points out that it is necessary for members of society to know about long-

term consequences without directly contacting them, and in *Beyond Freedom and Dignity* (1972) he discussed the implications of behavioral science for constructing effective social practices. Training in scientific research is aimed at training students of science to become good trackers; it may also be oriented toward training students to become speakers concerned with developing effective positive social trackers. Community psychologists concerned with changing community practices such as cigarette smoking may disseminate information about its negative health effects and institute social practices incompatible with easy access. This is an example of scientists both training tracking and tracking the effects of their own behavior (Biglan, 1995).

Evidence for Social Concern for Augmenting

A social concern for pliance and tracking may still be governed by instrumentality or self-interest, namely, the immediate or long-term consequences accruing to speakers themselves. A social concern for augmenting, however, deals directly with the issue of the transmission of values. A key point is that Type 6 moral behavior occurs even when immediate consequences are not supportive.

Kohlberg (1984) describes the highest level of morality as autonomous moral reasoning. Among other features, autonomous judgments "reflect a view of moral duty that prescribes a certain set of moral obligations and actions regardless of the inclination of the actor, or various pragmatic considerations" (p. 349). Rawls (1971) has argued that the best means for creating a just society is to insure that the influence of selfish considerations is controlled. In line with this understanding, Vaclav Havel noted that treatment of minorities is "the litmus test of a civil society," and Gunter Grass stated, in reference to these minorities, "we need them" (Kobak, 1995, p. 16).

Perhaps the most common support for Type 6 moral behavior occurs in spiritual and religious institutions that are based on personal values rather than authoritarian dogma (which would be a Type 4 religious practice). In psychosocial treatments, values clarification, mindfulness, and commitment-based approaches are clearly Type 6 activities.

APPLIED IMPLICATIONS OF A PLIANCE-TRACKING- AUGMENTING THEORY OF MORAL BEHAVIOR

Pragmatically speaking, an analysis of moral behavior is useful to the extent that it enables the construction of environments that engender increasingly moral behavior. The pliance-tracking-augmenting theory we have presented here has certain clear implications in that regard. Although these implications are highly speculative, a brief review seems warranted.

Training Moral Pliance

The development of pliance and its transition to tracking involves the introduction of rules, monitoring of rule following, contingent application of consequences to rule following with meaningful and appropriate reinforcers, and moving these rules and reinforcers over time to those involving natural contingencies. Given this analysis, an environment that initiates training in rule governance logically requires:

1. A social-verbal community that holds moral conventions.
2. Rich verbal environments that give adequate training in arbitrarily applicable relating.
3. The development of social praise as a generalized reinforcer through "supportive" interactions.
4. Reasonable and regular rule statements (e.g., requests for helping) that reflect approximations relative to the child's current repertoire.
5. Rule givers who can consistently

monitor compliance or failure to comply.

6. Rule givers who consistently control and contingently deliver reinforcers.

7. Reinforcers contingent on rule following that are important relative to other sources of reinforcement in the environment.

8. Moderate discipline. If benefits accrue primarily to the rule giver, or if consequences are too severe, counterpliance may be engendered.

9. Gradual introduction of moral tracks and the gradual reduction of needless pliance once tracking takes hold.

Many of these elements have been confirmed in the empirical literature, although they have not been organized around the concept of pliance.

Training Moral Tracking

Tracking requires a history of contact with the natural and increasingly long-term consequences of rule following, not just immediate arbitrary consequences for rule following mediated by a rule giver. Tracking is thus sensitive to a number of other controlling variables: the history with similar rule givers, the correspondence between the rule and other rules in the listener's history, the importance of the consequential events specified in the rule, training in responding to delayed reinforcers, a history of contact with these sorts of events (or with events related to them), and the like. Whereas in pliance the consistency of the rule giver in meting out consequences for rule following per se is at issue, in tracking the most relevant history with the rule giver involves the accuracy of their previous statements or of the previous statements of other rule givers.

An environment that successfully trains moral tracking seemingly requires the following:

1. The establishment of a moral pliance repertoire, above.
2. Experience of natural long-term

social and verbal consequences within both adult and peer contexts.

3. Acquiring a history of consistently reliable correspondence between the moral rule and the social contingencies they specify (i.e., frequent, accurate descriptions of the world, beginning with relatively short-term and highly likely situations and gradually becoming more long term and probabilistic).

4. Social and moral consequences specified by the rule that are reinforcing and are more important than immediate consequences for other behavior.

5. A verbal repertoire that includes experience in temporal relating and constructed futures.

6. Support for the tracking of increasing abstract consequences as moral augmenting develops.

The evidence for these ideas is less robust than in pliance, but none of the available evidence contradicts these views.

Training Moral Augmenting

Although pliance initially adds reinforcers to the environment of children, and tracking effectively maximizes access to long-term sources of reinforcement, augmenting highlights or emphasizes relevant, and potentially subtle, sources of reinforcement.

An environment that supports the development of moral augmenting logically seems to require:

1. Preexisting repertoires for moral tracking and pliance, above.

2. Consistent contexts in which the transfer of conditioned emotional "empathic" responses leads to a more predictable and positive social environment.

3. Modeling of the importance of abstract consequences (e.g., seeing a parent volunteer, give to charity, etc.).

4. The development of self-awareness and perspective taking as a result of consistent training by the social-verbal community.

5. Development of increasingly com-

plex relational networks—sophisticated language development.

6. Application of this abstract verbal relating to abstract consequences such as *fairness* or *justice*, and training in the discrimination of situations in which these abstracted properties apply (i.e., discriminating situations as sharing properties with abstract verbal reinforcers such as justice or freedom).

7. Experience in constructing futures often and accurately (e.g., describing consequences in detail before they are contacted in increasingly large increments of time).

8. Linking other forms of rule following (pliance and tracking) to verbally constructed futures.

These ideas are the most speculative, but some evidence (reviewed earlier) is supportive and none is contradictory.

Training Moral Speaker Behavior

Moral speakers are concerned with training moral listeners. This concern may evolve developmentally as the consequences accruing to the speaker become both increasingly distal and increasingly competitive with other reinforcers. In training pliance, deprivation in the speaker may make the listener's compliance immediately reinforcing. In training tracking, the long-term benefits of training moral behavior must take precedence over shorter term consequences. In training augmenting, the speaker's behavior is under the control of bringing the behaviors of others under abstract consequences, possibly even in direct competition with reinforcers available through pliant listeners (immediate personal gains to the speaker) or tracking listeners (e.g., gains acquired through social conformity).

The development of speakers concerned with moral behavior on the part of listeners requires the following:

1. Moral speakers have opportunities for contact with social environments that permit them to observe the effects of their behavior on listeners (i.e., speakers understand their role as

agents of social influence, specifically as trainers in rule-following behavior).

2. Moral speakers are somewhat fluent with the first three types of moral behavior as listeners.

3. The consequences mediated by moral listeners are reinforcing to (valued by) the speakers, and the availability of such reinforcers is salient.

4. Influencing speakers to be concerned with constructing pliance requires that (a) speakers' social histories include exposure to reinforcers available through the mediation of morally pliant listeners and (b) speakers' repertoires include the skills necessary for shaping moral pliance (e.g., discipline, consistency in contingent responses to listeners' behavior, etc.).

5. Influencing speakers to construct environments conducive to moral tracking requires that (a) speakers' social histories include exposure to mediation by long-term probabilistic behaviors on the part of listeners and (b) speakers have the skills needed to shape moral tracking behavior (e.g., reliably predicting long-term events, effectively constructing future outcomes, sensitivity to subtle long-term social contingencies, etc.).

6. Influencing speakers to construct environments conducive to engendering moral augmenting requires that (a) speakers' behavior must be controlled by values, such that the reinforcers mediated for speakers by moral listeners compete effectively with more instrumental sources of reinforcement available to speakers and (b) speakers have skills in generating conditions that support the noninstrumental responding of others (i.e., complex verbal abstraction, discriminating particular situations as opportunities for the application of moral principles, the introduction of occasions for choosing with competing sources of reinforcement, the gradual shaping of responding to the noninstrumental dimension, etc.).

In essence, a speaker's experience in his or her community builds the repertoires that guide his or her behavior as an agent of social influence. The

community may be a source of reinforcement insofar as it is a medium for short-term exchanges, a vehicle for long-term exchanges, or a means of expressing abstract principles such as "loving one's neighbor as oneself."

CONCLUSION

Without significant modification, a modern behavioral approach to language seems to lead quite naturally to a coherent analysis of an important and complex form of human activity: moral behavior. This is a supportive finding that reflects positively on the behavior-analytic strategy of starting with more elementary units and building to more complex forms of behavior. The key is whether programs can be designed to promote moral development. If it is true that "moral virtues, like crafts, are acquired by practice and habituation" (Aristotle, *Ethics*, 1968, p. 91), then the application of basic and applied work in verbal regulation may enable us to construct environments that are conducive to such practice.

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