The Behavior Analyst 2004, 27, 43–53 No. 1 (Spring)

Stability Over Time: Is Behavior Analysis a Trait Psychology?

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Historically, behavior analysis and trait psychology have had little in common; however, recent developments in behavior analysis bring it closer to one of the core assumptions of the trait approach: the stability of behavior over time and, to a lesser extent, environments. The introduction of the concept of behavioral momentum and, in particular, the development of molar theories have produced some common features and concerns. Behavior-analytic theories of stability provide improved explanations of many everyday phenomena and make possible the expansion of behavior analysis into areas that have been inadequately addressed.

Key words: traits, dispositions, behavioral momentum, molar theory, teleological behaviorism, moral attribution, behavioral stability

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On the surface, the subtitle of this paper poses a silly question. It is hard to think of two theoretical viewpoints more widely separated than behavior analysis and trait psychology (Skinner, 1953). Yet on close examination, contemporary behavior analysis has increasingly focused on the stability of behavior across time and environments, a central concern of trait theories. In this paper, I argue that, despite their many differences, it is entirely appropriate for behavior analysts to share an interest in stable forms of behavior with trait theorists. Furthermore, I hope to show that, in a social context, behavior that is relatively stable across time and environments is viewed differently than behavior that is less stable. As observers we make different judgments about people whose actions are consistent than we do about those whose actions are inconsistent, and these judgments often have important consequences. Finally, I suggest that a behavior-analytic interpretation of stable behavior has somewhat different and, in some cases, more optimistic social and cultural implications than those that follow from traditional trait approaches.

I thank Carol Pilgrim, Jefferson Singer, and the anonymous reviewers for their comments on earlier versions of this article.

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Trait Theory

In their various forms, dispositional theories have the longest history and remain among the most popular of all explanations of human behavior (Carver & Scheier, 2004). Dispositional theories hold the common view that people exhibit relatively stable characteristics across environments and time (Carver & Scheier). The varieties of dispositional accounts include type theories, which attempt to separate people into groups representing discontinuous personality categories (e.g., Jung, 1933), and trait theories, which attempt to describe people with respect to continuous dimensions of personality. In addition, the word *temperament* is sometimes used in the singular form to describe a person's essential character (Allport, 1961), but it is also used in the plural form to describe traits that are present in early childhood (e.g., Buss & Plomin, 1975; Kagan, 1994). Finally, consistent dimensions of personality that are labeled *traits* (e.g., extroversion) are contrasted with more temporary responses to the environment, called *states* (Revelle, 1995). Thus, anger can be a trait, if it is a longer lasting disposition, as well as a

state, if it is a relatively momentary response to a current situation (Spielberger, Sydeman, Owen, & Marsh, 1999).

The trait approach has been challenged by other personality theorists (e.g., Mischel, 1968), but today trait theories are experiencing renewed popularity, with a five-factor model of personality emerging as the most widely endorsed (e.g., Costa & McCrae, 1992a; Digman, 1990). Among the general public, trait explanations of human behavior have never lost their appeal and, indeed, appear to be an integral feature of western culture (Hineline, 1992; Moore, 2003; Ross & Nisbett, 1991).

The origins of the dispositional approach are attributed to the ancient Greeks. In 400 B.C.E. Hippocrates introduced the earliest known theory of temperaments. According to Hippocrates, the four humors (blood, phlegm, yellow bile, and black bile) determined one's temperament, and excesses or deficits of these fluids produced one of four personality types: sanguine, melancholic, choleric, or phlegmatic. Galen refined this theory in the 2nd century B.C.E., and it remained popular for two millennia, gaining particularly widespread acceptance in Europe during the period of the Renaissance through the 19th century.

An interesting variation on the theory of humors, which was also introduced in ancient Greece, is physiognomy, which claimed that personality types could be identified from facial features (Wells, 1866). Physiognomy experienced a revival in the 19th century after the publication of Johann Lavater's *Essays on Physiognomy* in 1789. This book became "a basic resource in a gentleman's home, to be consulted when hiring staff, making friends and establishing business relations" (Wechsler, 1982, p. 24).

The theory of humors also informed medical practice and led to the development of heroic medicine, which involved methods such as bloodletting and the use of leeches and purgatives in an effort to achieve health through the proper balance of bodily fluids. The colonial doctor Benjamin Rush was a major proponent of bloodletting in America, and the methods of heroic medicine remained the dominant western medical practice from medieval times well into the 19th century (Duffy, 1976).

Before discussing more contemporary trait psychologies, it is worth noting that astrology, the theory of personality that is probably endorsed by the greatest number of people worldwide, is also a trait theory. The determining factor in this case is purported to be an astronomical event, rather than genetics or some other terrestrial process, but the result is said to be a stable personality type that is similar for people born during the same sun-sign period (Guiley, 1991).

Modern trait theories of personality come in different forms. Gordon Allport, an important figure in the history of trait psychology, adopted the ideographic view that each person is a distinct individual. He proposed a hierarchical organization of traits, with some more central than others. He also believed that some traits were shared among members of the general population, whereas others—perhaps as many as a thousand—were unique to a given person (Allport, 1931). For the present discussion, it is important to note that, in a classic paper in which he outlined the defining features of a trait, Allport strove to distinguish traits from habits, suggesting that traits were more generalized than habits and that traits were often the source of habits. (An unusual contribution to learning theory, indeed.) Other trait theorists, including the majority of contemporary trait psychologists, have taken a more nomothetic approach—searching for a relatively small set of universal traits that are held in varying degrees by everyone.

Trait psychologists also differ on—or in some cases appear ambivalent about—the important issue of whether traits are causes or effects (Pervin, 1994). Some believe that traits, as mea-

TABLE 1

Trait psychology versus behavior analysis

Characteristic	Theory	
	Trait psychology	Behavior analysis
Measurement	among participants	within participants
Research design	correlational studies	experiments
N	large	small
Data analysis	factor analysis, correlations	graphic displays, descriptive statistics
Observed relations	behavior–behavior	environment–behavior
Causal variables	phylogenic or hypothetical	phylogenic and ontogenic
Scientific goal	prediction	control

sured by personality psychologists, are dependent variables or phenotypes that simply summarize a person's average behavior and have no causal power (Caprara & Cervone, 2000; Epstein, 1994; Pervin, 1994). Others assert that traits are inherited genotypes that determine an individual's behavior (Costa & McCrae, 1992a; Eysenck, 1990).

Recently, a five-factor model of personality has gained widespread support (Digman, 1990). According to this theory, the traits of extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience are central to everyone's personality and can be reliably measured by questionnaires, the most popular of which is the NEO Personality Inventory developed by Costa and McCrae (1992b). Interest in the five-factor model increased during the 1980s and 1990s, and it is now given substantial coverage in many personality textbooks (e.g., Carver & Scheier, 2004; Ryckman, 2004). Costa and McCrae have become influential figures in personality research, and it is noteworthy for the present discussion that they find great stability in these five traits over time. They summarized a number of longitudinal studies and found substantial correlations within adults across periods ranging from 3 to 30 years (Costa & McCrae, 1994). As a result, they concluded that William James was correct when he asserted that, once a person reaches adulthood, his or her character is "set in plaster" (James, 1890/1981, p. 126).

Is Behavior Analysis a Trait Psychology?

The answer to this question is, of course, no. Behavior analysis is not a trait psychology. As Table 1 indicates, the two approaches have more differences than similarities. However, increasingly, behavior analysts have begun to concern themselves with behavior that is stable over time. Few behavior analysts would say that one's personality is set in plaster. Of course, the word *personality* rarely appears in the literature of behavior analysis, but more important, despite recognizing the influence of genetics, few would say that anything at all is set in plaster. To be fair, although Costa and McCrae (1994) believe that, for most people, personality is fixed in early adulthood, they acknowledge that their longitudinal studies present average paths through life and do not reflect what might result from effective intervention. Continuity is typical, but with effort, change is possible (McCrae & Costa, 2003). Nonetheless, these two positions have focused their attention in different places: Trait psychologists of the nomothetic variety have spent most of their time seeking evidence of continuity, and behavior analysts have been primarily concerned with the determinants of change.

BEHAVIORAL STABILITY

Until the 1970s, behavior analysis was a largely molecular theory. Al-

though steady-state behavior has often been the object of study and some theoretical extensions have addressed longer lasting forms of behavior (Skinner, 1953), most theories of operant behavior made reference to response–reinforcer relations over relatively short time intervals. But, since the 1970s, a number of trends show an increased attention to stable forms of behavior, pulling behavior analysis somewhat closer to trait theory than it has been in the past.

Behavioral Momentum

One example of attention to the stability of behavior is the concept of behavioral momentum (Nevin, 1992; Nevin & Grace, 2000). A number of experiments have demonstrated that behavior maintained under higher rates of response-dependent or response-independent reinforcement is more resistant to various environmental disruptions than is behavior maintained under lower rates of reinforcement. In comparison to the fixed personalities that are the object of study for trait theorists, behavioral momentum is a far more temporary effect, but it appears to be a potentially useful idea that may lead to valuable applications (Ducharme & Worling, 1994; Mace et al., 1988). For the present discussion, behavioral momentum is important because it represents a behavioral principle that asserts that, under the right circumstances, relatively stable forms of behavior emerge. This discovery does not bring to mind traits set in plaster, but it is an example of behavior analysts addressing how behavior can fail to respond to environmental changes and remain stable across time.

Molar Theories of Behavior

A more likely candidate for bringing these two disparate worlds together is the ascendancy of molar theories in behavior analysis, which Baum (2002) has recently described as a "paradigm shift." The matching law is a statement about behavior that has reached stability under consistent environmental conditions. It is not a statement about the moment-to-moment ebb and flow of behavior. In outlining the differences between the molecular and molar views, Baum writes,

> Whereas the central ontological claim of the molecular view is that behavior consists of discrete responses, the central ontological claim of the molar view is that behavior consists of *temporally extended patterns of action* [emphasis added]. I shall call these activities. (p. 97)

He goes on to say that certain activities, such as "batting," can be nested within other, more extended activities, such as "playing baseball," in an arrangement reminiscent of Allport's hierarchical traits. Baum (2002) also suggests that the guiding metaphors of the two approaches are quite different. For the molecular view it is *response strength,* whereas for the molar view it is *allocation,* the proportion of time spent at a given activity, which can only be determined by observation over relatively long periods of time. Thus, according to Baum's molar view, a "so-called response is an episode of an activity" (p. 100), and the focus should be on relative time spent at the activity, because, when viewed from a distance, these temporally extended patterns of action often do not have discrete units. What are the discrete responses associated with wheel running or reading a novel?

A particularly interesting aspect of molar theory as Baum (2002) describes it is the focus, not on response classes, but on individuals. Molecular theory is based on the notion of response classes that are defined by lists of properties or rules of membership, such as all actions that depress the lever. In contrast, according to Baum, molar theory is concerned with individuals, which he describes as concrete particulars. He writes,

> An individual is a cohesive whole that is situated in space and time—a historical entity. That is, an individual (e.g., B. F. Skinner) has a location, a beginning, and potentially an end. Individuals have no instances. B. F. Skinner is who he is and has no instances. . . . In particular, whereas in-

> dividuals can change, classes cannot change. B. F. Skinner changed from boyhood to adulthood, but he was still the same individual, B. F. Skinner. (p. 107)

As Baum uses the term, *individual* can describe units other than those we typically think of as an individual. A species can also be an individual. It is a concrete particular, unique to itself, and a specific organism is not an instance of a class but a part of a larger whole: the species. Alternatively, an individual person engages in extended patterns of behavior, and these activities represent individuals or wholes that are themselves part of the larger individual (e.g., B. F. Skinner). Thus, individuals are integrated but malleable entities that can themselves be parts of larger individuals. Finally, whereas the molecular view is concerned with discrete occurrences of a response class, the molar view is concerned with the relative allocation of behavior to temporally extended patterns of action.

This description of molar theory begins to take on the flavor of personality theory. Baum (2002) does not use words like *self* or *personality,* but his emphasis on individuals as wholes and the description of the individual in terms of allocation of behavior are remarkably similar to trait theory. Behavior analysts, like some trait theorists, would say that what personality psychologists call traits are stable forms of behavior, or extended patterns of action. They might be called the average or typical activities of a person during a particular time interval. When there is stability in these traits, dispositions, or activities, the behavior analyst would most often make an environment–behavior locution, attributing the stability to continuity in the environmental contingencies (Hineline, 1992), whereas the trait theorist would make a person–behavior locution, attributing it to a characteristic of the person. But, both molar behavior analysis, as Baum describes it, and trait psychology strive to describe the individual as a whole (or individuals as wholes) by measuring relative rates of responding on a variety of dimensions.

The parallel between the kind of personality or individual descriptions of these two theoretically distinct points of view can be seen in Figure 1. The upper panel is from Baum's (2002) article, and it depicts the life of a hypothetical woman, Liz. Liz's daily activities are allocated among the domains of health, resources (work), relationships, and reproduction (family relationships). Moving to the right, the figure shows how smaller sets of activities might be nested within larger ones. The lower panel is a fairly typical profile of an individual, in this case a young woman (not Liz), produced by a personality inventory—the NEO Five-Factor Inventory (NEO FFI; Costa & McCrae, 1992b). Each of the dimensions of the NEO FFI is presented on a T scale, with a mean of 50 and a standard deviation of 10. The woman presented here is described as high on neuroticism, very high on openness to experience, very low on conscientiousness, and average on both extroversion and agreeableness.

Both of these graphics are designed to summarize important features of a person's life, but they differ in many respects. Baum's figure shows the percentage of time spent in various activities, whereas the NEO FFI profile is based on self-reports in response to relatively general summary statements, such as "I am a worrier" and "I try to be courteous to everyone I meet." The verbal responses to the NEO FFI are presumed to bear some relation to other forms of behavior addressed in the questionnaire. As a result, the scales of the NEO FFI reflect abstract concepts, such as openness to experience. Furthermore, time spent in each activity of Baum's profile is measured relative to time spent performing the other activities, whereas the scores of the NEO FFI profile are presented in relation to those of a normative sample. Nonetheless, each of these figures is designed to describe a person as a cohesive whole made up of smaller parts, and

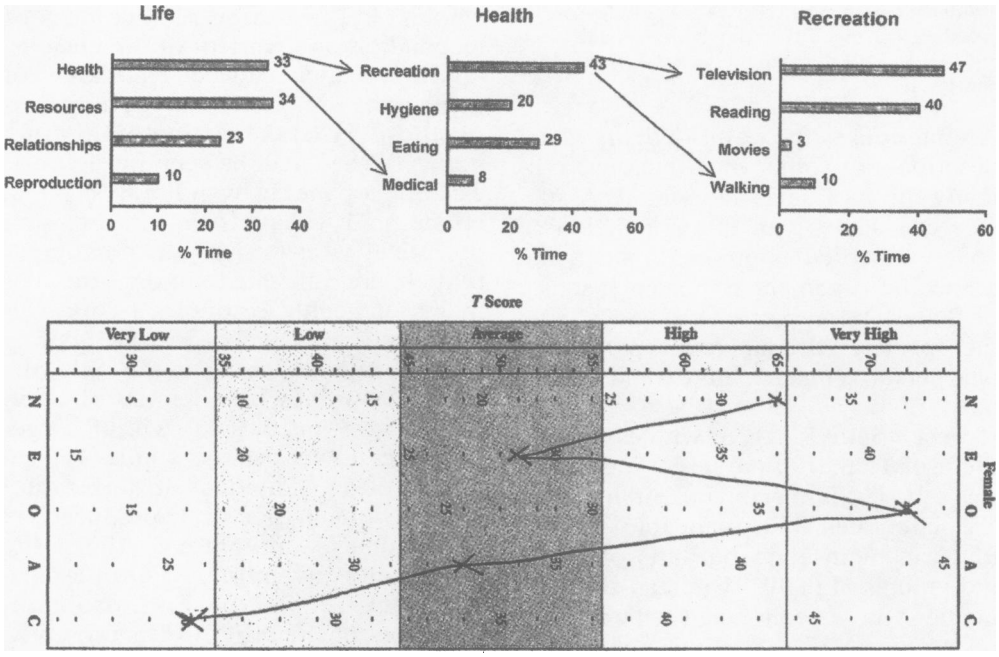

Figure 1. The top panel, taken from Baum (2002), depicts the relative allocation of time to various activities for a woman named Liz. The middle and right sections show how larger activities, such as health, can be broken down into smaller ones. The lower panel shows a NEO FFI personality profile of a young woman.

thus, they use different strategies to achieve a common goal.

Finally, both of these profiles convey a sense of stability or continuity. This is more clearly the case for the NEO FFI because the items of the questionnaire are rather global statements about behavior. However, because Baum's (2002) figure would need to be based on observations over a long period of time, it too conveys the kind of continuity that is typical of a trait. Nonetheless, Baum's figure is not set in plaster. Indeed, his molar account anticipates changing activity patterns in response to changes in the person's environment and biology. He writes,

> The allocation was different 10 or 15 years earlier, when her son was young and she was caring for her husband's children from previous marriages. As an individual, the activity has changed and will change again over the course of Liz's life, but it will remain the same individual, the pattern of Liz's life. (p. 110)

Before we leave this comparison of Baum's (2002) description of Liz and a typical NEO FFI profile, an important distinction should be made between these two approaches. Trait psychologists use self-report questionnaires to measure behavior in the hope that these traits will be correlated with other forms of behavior. Thus, trait psychologists are concerned with behavior–behavior relations that address the scientific goal of prediction but not the goal of control (Hayes & Brownstein, 1986, 1987; Skinner, 1953). This research strategy provides little evidence of the causes of behavior, and as a result, trait theorists disagree about what traits represent and how behavior change can be achieved (Caprara & Cervone, 2000; Epstein, 1994; Pervin, 1994). Some causal variables are not subject to experimental manipulation, but behavior analysts typically eschew the correlational study of behavior–behavior relations in favor of the functional analysis of environment–behav-

ior relations (Hineline, 1992; Skinner, 1953).

Teleological Behaviorism

Rachlin (1992, 1994, 1999) has proposed an Aristotelian theory of behavior that is molar, derived from research on the matching law, and closely related to Baum's (2002) account. Whereas most scientific theories are based only on efficient causes (the effects of immediate and relatively direct forces on objects or organisms), teleological behaviorism proposes that behavior is also controlled by goals and purposes, what Aristotle called final causes. For Rachlin, the meaning of an individual action cannot be detected until it is viewed in the context of the extended pattern of behavior of which it is a part. This larger meaning or goal is the final cause. In addition, when they can be discovered through experimentation, utility functions represent quantitative statements of final causes (Rachlin, 1994, 1999). Some of the features of Rachlin's theory, particularly as it applies to problems of self-control (Rachlin, 2000), make it into another behavioral version of trait psychology.

As an example of how meaning can be determined from observing an extended pattern of behavior, Rachlin presents the case of two individuals, one deaf and one hearing, sitting quietly in a room where a recording of a Mozart string quartet is playing. Based on this isolated observation, we have no way of distinguishing them one from another. It is only by taking a larger slice of their histories and noting the correlation or lack of correlation between their behavior and the sounds that are present in the environment that we might come to understand the causes of their actions (Rachlin, 2000, p. 19). In contrast to Skinner's view that individual episodes of contiguity between a response and a reinforcer are the efficient causes of subsequent changes in response rate, Rachlin (1999), like Baum, suggests that a molar view is required. Although he notes the similarity of this feature of teleological behaviorism to the concept of history of reinforcement, which he calls Skinner's most molar construct (Rachlin, 1999, p. 204), Rachlin takes issue with the traditional view because, as a causal mechanism, history of reinforcement exists entirely in the past. For Rachlin, an action at any particular point in time is part of a pattern of behavior that extends into the past as well as the future, and it is this larger pattern that is the final cause of the particular act. For example, the final cause of a violinist playing a series of notes might be that he or she is playing Debussy's String Quartet in G Minor (Zuriff, 2002); in Rachlin's view, this is a more satisfactory explanation than one based solely on contiguous events.

When Rachlin applies his molar theory to problems of self-control in *The Science of Self-Control* (Rachlin, 2000), he makes substantial use of the concept of a habit. Although the word appears rarely in his theoretical work on teleological behaviorism, when discussing the problems encountered by alcoholics struggling to overcome their problem drinking, he refers to James' (1890/1981, p. 125) metaphor of habit as "the enormous flywheel of society" and suggests that, like the flywheel of an engine, habit's function is to overcome temporary opposing forces (Rachlin, 2000, p. 7). As he points out, this inertia-like property is fine when the habits in question are good, but when a habit is bad, the flywheel makes it difficult to interrupt the flow of self-destructive behavior.

Rachlin's (2000) resurrection of the concept of a habit is noteworthy in at least two ways. First, it seems to fit. With a few exceptions, some of which I have already noted, behavioral analyses of human action have been dominated by molecular interpretations that do not realistically portray the continuity of behavior over time. Much of everyday human behavior is habitual and resistant to change, and Rachlin's use of the concept of habit provides a behavioral rather than a biological ex-

planation of this aspect of human experience. In addition, the traditional concept of a habit as it applies to self-defeating behavior has been further strengthened by more recent research on choice, much of which helps to explain why behavior that does not serve the individual well can nonetheless become dominant (Heyman, 1996).

Second, whether one attributes the concept of habit to a history of reinforcement or to Rachlin's (1994) more abstract final causes, the metaphor of the flywheel evokes the kind behavioral continuity that I am suggesting is the essential feature of a trait.[1] People have very different environmental histories. Over time this means that one person will acquire a particular constellation of habits and another may acquire a very different one. If we encounter these two people at a single point in time—without access to their histories—we might attribute their differences to some essential thing within each of them, their personalities (Hineline, 1992). But whether the attribution of cause is environmental, biological, or astrological, this concept of behavioral continuity produces an important shared feature among very different theories.

THE IMPORTANCE OF STABILITY

Up to now, I have sought to make the fairly modest point that in recent years behavior analysis and trait theory have inched closer together. Marriage is probably not possible. There are differences that would be hard to reconcile. However, behavior analysts have begun to focus their attention on forms of behavior that are more long lasting and resistant to environmental changes—the traditional domain of trait psychologists. But why should we be concerned with stable forms of behavior? One reason, of course, is that if a particular pattern of behavior is undesirable, trait-like stability presents an additional obstacle. But there may be other important reasons to be concerned with patterns of behavior that extend over long periods of time. One of these is suggested by the following passage from Rachlin's (2000) book:

> Imagine you see a snippet of film that shows a man swinging a hammer. But what is he actually doing? Consider the following alternative descriptions. He is
>
> a. swinging a hammer
> b. hammering a nail
> c. joining one piece of wood to another
> d. laying a floor
> e. building a house
> f. providing shelter for his family
> g. supporting his family
> h. being a good husband and father
> i. being a good person. (pp. 58–59)

As in the previous examples, Rachlin's point is to underscore the need for longer term observation to fully understand the meaning of behavior. He suggests that, to come to the final conclusion that the man swinging the hammer is a good person, one need not look into his heart. Instead, if one could be an omniscient observer who is able to watch the man's entire life, one would see him behave in many contexts and come to the conclusion that he was being a good man.

This passage seems important to our current discussion for at least two reasons. First, it is a relatively rare instance of a behavior analyst writing about moral attribution (but see Baum, 1994; Skinner, 1953; Staddon, 1995; for other examples). Second, this passage demonstrates an important implication of behavior that is perceived to be consistent over time: Observers make global assessments of others when they are able to detect temporally extended patterns of behavior. Although Rachlin's (2000) molar view is rooted in behavior analysis and research on the matching law, his theory

[1] It is noteworthy that James' famous "plaster" quote appears at the end of the same paragraph of *The Principles of Psychology* that introduces the flywheel metaphor. Contrary to Allport's (1931) later assertion that traits were not habits, James very clearly saw habits as the basis for what he observed as the fixed, plaster features of human character.

of final causes allows for an innovative form of virtue ethics.

Following the lead of Rachlin and others, I will say a few more words about moral attribution. In everyday life, people make moral assessments of the behavior of others, and these assessments can have important implications for the individual being observed. Social-psychological research suggests that, when people who commit violent crimes are described as having a history of unlawful behavior, observers judge them to have a greater moral deficit, and in some cases, these moral judgments are related to both the severity of punishments recommended and the perceived need for psychological treatment (Monahan & Hood, 1976; Wielt, 2003). In everyday life, people who are judged to be morally deficient due to a consistent pattern of behavior are often thought to be less redeemable and more dismissible (Moore, 2003). "Three strikes and you're out" sentencing guidelines codify this kind of social judgment. Thus, stable forms of behavior sometimes have implications that are greater than the total of each individual action.

It is perhaps worth noting that Aristotle's descriptions of the virtues are quite consistent with the present view of stable behavior (Aristotle, 1985). Aristotle argued that each of the basic virtues was attained by practicing virtuous actions. The dispositions that determined a person's character were the result of habitual action, and one's goodness or badness was not reflected by any individual act but by the sum total of all his or her actions. One might be less than generous on a particular occasion, but if, on average, one is neither withholding nor wasteful, then one could be said to possess the virtue of generosity. This view shares much with psychological trait theories and with a learning theory that provides an account of stable forms of behavior. Of course, Aristotle believed that, in practicing virtuous (or nonvirtuous) behavior, the individual had free will with respect to the action taken, but in most other respects, Aristotle's ethics is consistent with behavior analysis.

Although it has not often been addressed by behavior analysts, moral judgment based on dispositional attributions seems to be an important aspect of everyday life that is correlated with a variety of other actions (Moore, 2003). The introduction of temporally extended patterns of action into the behavior analyst's frame of reference opens the door to the study of topics that were previously difficult to fit into a behavior-analytic viewpoint. Without relinquishing environmental determinism as a controlling principle, behavior analysts can begin to address many issues that were previously reserved for personality and social psychologists whose theoretical orientations are based in cognitive or trait psychologies.

CONCLUSION

Inspired, in part, by a colleague's observation that "operant behaviorists . . . don't like traits," Meehl (1986) argued that much of trait theory should be acceptable to behaviorists. He observed that traits are an integral part of ordinary language and that many, such as those measured by intelligence tests and personality inventories, have substantial predictive power. The present argument takes a different tack. Rather than supporting the usefulness or validity of traditional trait theories, I have argued that recent behavior-analytic accounts of stable forms of behavior add breadth and verisimilitude to behavior theory. Given the widespread acceptance of trait accounts among the general public, these developments also represent opportunities for behavior analysts to supply alternative explanations to those offered by trait theorists. These behavior-analytic accounts have the potential to stimulate an expansion of behavior analysis into areas it has rarely addressed. Recently, molar theorists have made valuable contributions to the understanding of addic-

tions (Heyman, 1996; Rachlin, 2000), and additional attention to the allocation of behavior over longer periods may lead to similar contributions to the understanding of other trait-like forms of behavior.

Applied behavior analysts who acknowledge that much of human behavior is stable across time and, to a lesser degree, environments, may also experience benefits. First, their behavior theory will present a truer picture of human social problems, which often take the form of extended patterns of behavior. In addition, explanations that involve molar, as well as molecular, interpretations will very likely gain greater acceptance by consumers than explanations that depend entirely on more molecular interpretations.

In addition, if it can be effectively argued that what most people think of as hardened, plaster traits are in fact temporally extended patterns of behavior constructed out of long learning histories, perhaps we can make the sinners among us appear redeemable again. When undesirable behavior is resistant to change, the current fashion is to identify it as an addiction or a psychological disorder. Both of these labels suggest that the stability of the behavior stems from a permanent "disease" or genetic condition. The disease model tends to relieve individuals of responsibility and render them victims in need of services—both of which provide social benefits—but it also transforms behavior into a stable feature of the person. In contrast, behavior analysis offers the hope of reinventing oneself. As Moore (2003) has recently suggested, behavior analysts' rejection of dispositional accounts of human action has important implications for social justice. The attributional biases that often are associated with the punishment of various social groups are not supported by a behavioral interpretation of traits.

Finally, to adopt a behavior theory that provides explanations for stable forms of behavior, we need not reject molecularism in favor of molarism. I have argued that molar accounts have contributed to behavior analysis and that they—and other theoretical developments that improve our understanding of behavior that is stable across time—hold the potential for a further expansion of theory and application into domains largely neglected by behavior analysts. Yet, in recognizing the promise of molar theories, we need not herald their emergence as a Kuhnian paradigm shift (Baum, 2002). Molecular accounts continue to have great explanatory power, both in the basic and applied domains. Some contexts may be more suited to molar accounts and others to molecular, and a rapprochement remains possible (Moore, 1983). But behavior analysts have little to lose and possibly much to gain by taking a closer look at old concepts, such as habit, and newer ones, such as behavioral momentum, temporally extended patterns of action, and allocation.

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