DISPOSITIONING AND THE OBSCURED ROLES OF TIME IN PSYCHOLOGICAL EXPLANATIONS

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ABSTRACT: “Now” is privileged in most psychological theories, which portray their processes as proceeding from moment-to-moment. As in any science, this adherence to contiguous causation hinders an account of phenomena that involve remote events or temporally extended organization. In addition, our scientific discourse is framed by the everyday patterns we have learned in explaining our own actions and those of others, yielding a bipolar constraint of explanatory language. Thus, tripolar relations among organism, environment and behavior are reduced to cause–effect, noun–verb, agent–action. This imposes exclusionary emphases upon organism-based or upon environment-based terms as accounting for behavior. Especially with remote causation or temporal dispersion, implicitly assumed contiguous causation appears to be defended through a practice we have called “dispositioning.”

Psychological Explanations: Analyzing Our Own Interpreting

Philosophers and scientists often speak or write as if their explanations and understanding have transcended those of ordinary people. Accordingly, we psychologists tend to consider our formal and theoretical explanations of behavior to be more adequate than lay persons’ explanations—as specifying the variables shown to influence behavior or as identifying processes that are understood as underlying it—and thus immune to the errors we discern in ordinary-language explanations. Of course, the conceptual/analytic examination of “cause” or explanation enjoys a long and rich history, originating in philosophical writings such as those of Aristotle, Descartes, Hume, and Kant. Traditionally, psychologists have drawn upon that literature to evaluate, compare, or justify interpretive positions.

AUTHORS’ NOTE: Douglas P. Field died in August 2001 after a summer-long struggle with an infection that proved impervious to antibiotics. At that time he held a post-doctoral position in the Department of Psychology, SUNY at Stony Brook, working with Howard Rachlin. The manuscript for this article had been a balanced collaborative effort up to that time, with the initial library research on attribution theory being the topic of Doug Field’s Preliminary Examination in partial fulfillment of the requirements for the Ph.D. at Temple University. During the ensuing months he generated an initial draft of the manuscript in close consultation with the second author.

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Contrasting with philosophical discourse are approaches that are anchored upon empirical studies of lay persons’ (e.g., Michotte, 1946/1963; Morris & Peng, 1994; Wasserman & Neunaber, 1986) and even animals’ (Killeen, 1978) judgments of causality. A premise of the present essay is that analyses pertaining to ordinary language may also be applicable to formal theorizing as it is actually practiced, for it is risky to assume that our formal theories and descriptions are completely independent of the ways we ordinarily talk (Hineline, 1980, 1992). To be sure, psychologists investigate and manipulate independent variables, describing their effects upon dependent variables, with both of these expressed in numbers—but we also engage in lengthy interpretations of why people do what they do; such descriptions, interpretations, hypotheses, and predictions are the warp and weft of all but the most purely quantitative formal psychological theories. Thus, while we can strive for rigorous objectivity in our empirical and conceptual work, we all remain members of the lay community as well as of specialized ones, and vernacular influences are likely to be found throughout. Willard Day (1969) urged psychologists to attempt to understand the full range of variables affecting their own descriptions:

Many patterns of verbal behavior pass as successful explanation to many people, and indeed common practices of explanation provide an interesting area for empirical investigation. . .it seems good advice to suggest that the theorist at least attempt to understand the factors that operate to make him generate his theory in the way that he does. Even a fairly casual inspection of most of the verbal material that is considered by many to be psychological theory can be seen to manifest conspicuous control by ordinary language habits. . . (p. 323)

A similar but more rhetorical approach to the issue is illustrated by contemporary deconstructionist arguments whereby Gergen (1994, p. 413), for example, observes that “psychology’s claims to superior voice are thrust increasingly into question.” This view is also consistent with prominent themes in philosophy (e.g., Laudan, 1977, 1984; Wittgenstein, 1953) as well as in psychological discourse (e.g. Gergen, 1985; Hineline, 1980, 1990; Lana, 1991, 1994), where one can find assertions that causes are not best understood as entities that do things; rather, that causal terms arise as ways of talking about orderly relationships between events that we observe or participate in.

While conceding that many specialized distinctions can be drawn between and within particular philosophical viewpoints and scientific theories, we focus here upon two characteristics of interpretive prose that are ubiquitous in systems of psychological explanation, including the system implicit in ordinary language. First, it is pervasively (if not explicitly) assumed that causes must be immediately attendant to their effects. This assumed necessity of contiguous causation persists in psychological discourse despite its having been abandoned in the physical sciences more than a century ago. Second, virtually all prose accounting for what organisms do is couched in bipolar locutions—noun–verb, independent variable–dependent variable, agent–action—with each of these functioning like (if not as) statements of cause–effect. This bipolarity is problematic because psychological
phenomena are intrinsically *tripolar*, involving an organism (its characteristics and internal conditions), environmental events (both present and past), and what the organism does—that is, its behavior.

What the organism does is always at issue, whether this “doing” is overt action or whether it is covert activity like thinking or perceiving. Consequently, behavior always occupies one of the two poles of an interpretive statement, which confines the remaining pole to only one of the remaining classes of terms, giving forced precedence to either: (a) terms identified with the behaving organism, or (b) terms that relate environmental events to the behavior. Thus, while in principle we could recognize that a complete account of some thought or overt action should include several or many contributing events and conditions, this is not what usually happens. Explanations of what people and other creatures do typically assert, implicitly if not explicitly, either that the characteristics of or internal processes of an organism determine what it does, or that environmental events account for what it does. To depart from this pattern would be to omit the bipolar hallmark of interpretive or explanatory prose. As a result, interpretive statements (including those we call theories) almost always give privileged explanatory status to one or the other type of locution, seeming to denigrate the terms that would be given salience within an alternative viewpoint\(^1\). While in theoretical disputes this problem is occasionally acknowledged, we find that its potential for generating heated disagreement is vastly underrated.

A major thesis of our essay interrelates these two themes, suggesting that the assumed necessity of contiguous causation, while often unacknowledged, results in the privileging of organism-based explanations in a way that adheres to a 17th-century conception of science. We acknowledge that the occurrence of these two interpretive patterns within ordinary language has been identified and studied by attribution theorists in social psychology. We shall draw upon their descriptions, as well as upon the work of other theorists, to illustrate the bipolar/tripolar conundrum of interpretive language, its relation to assumptions about contiguity in causation, and to demonstrate its relevance for formal psychological interpretation.

*Contiguity in Causal Interpretations*

Since at least as far back as the philosopher David Hume, the question of cause and effect has been explicitly identified with contiguity (e.g., see Lana, 1991). Hume (1777/1975) proposed that notions of causality are based on “constant conjunction,” where the primary cues to causality were spatially and temporally contiguous with the effect. For Hume, causal relations implied nothing more than invariable succession; the effect follows the cause (Staddon, 1973). While contiguity, defined as spatio-temporal conjunction, might seem straightforward, the distinction between contiguous and non-contiguous events is often arbitrary. For example, if an alarm clock rings until it is turned off, we readily identify the sound and its cessation as contiguous with the behavior of

\(^1\) In informal parlance, the exclusion of one class of terms may arise as simple expediency; in formal theorizing, it appears to also involve constraints of theoretical coherence.
pressing the “off” button. However, if a bell rings at the end of a class period and a child works for five more minutes before leaving, the bell ringing and the child leaving are not likely to be considered contiguous events. But what if the child were to leave after only two seconds? Ten seconds? Thirty seconds? Two minutes? Clearly, our categorizations of these as contiguous or non-contiguous events are interpretive dichotomizations of a continuum. Nevertheless, it remains a continuum that strongly affects causal judgments.

Empirical research has verified that this is indeed the case. For example, Michotte (1946/1963) studied the perception of causal relations and identified both temporal contiguity and temporal precedence as powerful perceptual cues, finding them to be primary in experimental subjects’ causal inferences. Subsequently, Wasserman and Neunaber (1986) and Young (1995) also proposed contiguity to figure prominently in causal assignments (see also Shanks & Dickinson, 1987, for a review of research supporting the same conclusion). These relations may even be embedded in fundamental biological functioning rather than being primarily verbal or symbolic in nature, for Killeen (1978) found that even with animals, temporally contiguous events are more likely to be erroneously attributed as causes. He trained pigeons to discriminate between food deliveries that they produced by pecking and food deliveries that were independent of their pecking by indicating with a separate response whether or not they had produced a particular food delivery. When non-contingent food deliveries occurred shortly following a bird’s peck (0.5 to 2.0 sec.), there was a great increase in the pigeon’s likelihood of attributing responsibility for the food delivery to itself. Additionally, Killeen varied the amount of food that was delivered in the “caused” and “not caused” conditions and found that false attributions to self were also strongly affected by the amounts of food delivered.

Studies of children’s causal explanations indicate that they, too, tend strongly to attribute cause to temporally contiguous environmental events (Shultz & Ravinsky, 1977; Siegler & Liebert, 1974; for reviews see Kassin & Pryor, 1985, and White, 1988). Kelley and Michela (1980) also proposed that when cause is uncertain or the relation between cause and effect is ambiguous, children’s attributions often appeal to that which, according to the researchers, is most salient, although it is difficult to independently specify the salience of an event. In practice (although not required by logic), “salience” appears to refer predominantly to features of the current environment and rarely, if ever, to a remote or distal event. In their text on social cognition, Fiske and Taylor (1991) also described findings from developmental research on attribution processes as important “because they form the underpinnings of children’s causal judgments and second, because adults continue to make use of them in inferring causality in ambiguous settings” (pp. 58-59). Fundamental principles of causation thus noted with children include: (1) causes precede effects, (2) cause is attributed to those factors that have temporal and spatial contiguity, (3) cause is attributed to perceptually salient stimuli, and (4) simple covariation enters into cause–effect relations.

Fiske and Taylor also noted that these fundamental principles “continue to characterize. . .some adults’ processes of causal inference;” although they asserted
that adults’ causal attribution may also include “understanding of distal or delayed causality, multiple causality, and other, more complex causal rules” when they are well informed or the situations are unambiguous (p. 59). These authors conclude that when experience is limited or the situations are ambiguous, the more rudimentary principles of causality tend to guide an adult’s attributing.

**Remote Causation in the History of Science**

Understanding of remote causation did not come easily even for the most sophisticated of adults, as illustrated by Sambursky’s compendium of quotations from the history of physical science (Sambursky, 1974). Aristotle, for example, placed the source of movement of inanimate objects within the objects themselves (Sambursky, 1974, p. 64), and Descartes found it inconceivable that there could be truly empty space, let alone that it could be spanned by causal relations:

> ... (since) it is absolutely inconceivable that nothing should possess extension, we ought to conclude also that the same is true of the space which is supposed to be void, i.e. that since there is in it extension, there is necessarily also substance. (Sambursky, 1974, p. 244)

Even Isaac Newton was ambivalent about the implications of his own theory of universal gravitation regarding this issue, as revealed in a letter that James Clerk Maxwell (1890) quoted when discussing theories on action at a distance:

> That gravity should be innate, inherent, and essential to matter, so that one body can act upon another at a distance, through a vacuum, without the mediation of anything else, by and through which that action and force may be conveyed from one to another, is to me so great an absurdity, that I believe no man who was in philosophical matters a competent faculty of thinking can ever fall into it. (Sambursky, 1974, p. 438)

Understood as distinct from gravitational relations, the conceptions of light and of other electromagnetic phenomena as propagated through empty space encountered their own difficulties of acceptance. Prominent physicists persisted in appealing to a hypothesized, gap-filling “ether” as essential for contiguous causation to occur, even in the face of decades of accumulating experimental data that indicated implausibly remarkable properties of such a medium. Thus, in 1907 Lord Kelvin asserted:

> . . . every cubic millimeter of the universal ether of space must possess the equivalent (mass) of a thousand tons and every part must be squirming with the velocity of light. (Goldberg, 1970, p. 100)

To countervail such implausible properties, Oliver Lodge, another prominent British physicist who adhered to ether theory, appealed to nonscientific experience:

> Now if there is one thing with which the human race has been more conversant from time immemorial than an ether and concerning which more experience has
been unconsciously accumulated than about almost anything else that can be mentioned, it is the action of one body on another... Every activity of every kind that we are conscious of may be taken as an illustration of the action of one body on another. Now I wish to appeal to this mass of experience, and to ask, is not the direct action of one body on another across empty space, and with no means of communication whatever, is not this absolutely unthinkable? I think that whenever one body acts by obvious contact, we are satisfied and have a feeling that the phenomenon is simple and intelligible; but that whenever one body apparently acts on another at a distance, we are irresistibly impelled to look for the connecting medium. (Goldberg, 1970, pp. 102-103)

Other scientists, such as Roger Cotes, who edited the Second Edition of Newton’s *Philosophiae Naturalis Principia Mathematica*, and James Clerk Maxwell, who clarified the implications of empirical data for the notion of a void-filling medium, advocated the interpretive approach that eventually prevailed. They did not so much disprove the existence of a mediating ether as show that it was superfluous to an explanation of the phenomena for which it had been invoked (Sambursky, 1974).  

**Extended Scales of Process in the History of Science**

Organization of entities on multiple, overlapping scales of magnitude is intuitively obvious in the spatial domain, as when examining a single object under a microscope one might see different structural relations at different magnifications. Thus, although Galileo had been criticized by secular philosophers for abandoning Aristotle’s distinction between heavenly and earthly physics, it was not unusual during the early days of physical science to find a single person doing astronomy, physics, and chemistry, applying related principles to each (Von Loue, 1950). The independent organizations of simultaneous, overlapping processes in the temporal domain are less intuitively obvious, but they came to be readily understood through study of periodic motion and acoustics. For example, Galileo described the principle of resonance with respect to vibration of strings under tension, relating the frequency to length and mass as well. On a much larger scale, Newton cited data regarding tides at various sea ports around England and Europe to support his inference that the moon exerts gravitational force on all objects on earth. Various phenomena of resonance—pendula, swaying bridges, electronic radio circuits, and optical resonance in vapor lamps—all have come to be analyzed in similar terms despite the fact that they involve periodicities that range from several hours per cycle to millions of cycles per second and involve substrates as different as bodies of water, spring tension systems, and electromagnetic fields.

The comparable understanding of temporally extended process in biology was not achieved quite so easily. Darwin’s account of evolution was published in 1859, proposing that evolution of species has resulted from selective process operating recursively across long time spans. Almost 50 years passed before it was generally accepted by the scientific community. This period has been referred to as the eclipse of Darwinism (Bowler, 1983; Catania, 1987). Not until well into the second
quarter of the 20th century did the theory of natural selection gain general acceptance within the lay community. It may be no mere coincidence that the theories Darwinism had such difficulty supplanting (e.g., orthogenesis, Lamarckism) each provided an explanation that included a strong contiguous causal element operating from within the organism. In contrast, the coherence of natural selection’s account of evolution relies on orderly relations extending across time and place as populations interact with environments. The scientific and lay communities may have been resisting the concept of order that can be apparent only at a distance without a contiguous initiating agent. Indeed, Dawkins (1987) asserts that even to this day, Darwinian theory is widely misunderstood partly due to the difficulty that people have with its extended time scales:

...our brains are built to deal with events on radically different time scales from those that characterize evolutionary change. We are equipped to appreciate processes that take seconds, minutes, years, or, at most, decades to complete. ... (p. xi, italics in original)

Similarly, Stephen J. Gould, who was well known for his skill at explicating the concepts and phenomena of paleontology to general audiences, observed:

It takes a particular kind of genius or deep understanding to transcend this most pervasive of all conceptual biases and to capture a phenomenon by grasping a proper scale beyond the measuring rods of our own world. (Gould, 1990, p. 24)

Note that in accounting for peoples’ difficulty in addressing extended time relations, the statements of both Gould and Dawkins appeal to the person’s brains, genius, or understanding in accounting for our explanatory practices—which returns us to the characteristics of psychological theorizing.

Explanations of Behavior

Ordinary-Language, Attribution Theory, and the Person–Situation Distinction

A significant tradition within social psychology is based on the premise that “the ordinary person has a great and profound understanding of himself and of other people which, though unformulated or only vaguely conceived, enables him to interact with others in more or less adaptive ways” (Heider, 1958, p. 2). The study of “naive” or “common sense” psychology has grown out of that approach and continues to provide fertile ground for psychological inquiry under the topic of Attribution Theory. Heider (1958) initially noted that distinguishing between personal and impersonal causes is important to the lay person. He also spoke of these causal sources in terms of the dispositional properties, both of the environment and of persons, with the primary emphasis being upon stable individual characteristics (pp. 147-160). He noted that the more an event is attributed to one of these, the less it is attributed to the other. As noted by Jones (1985), attribution theory is not one theory but a collection of theories addressing
peoples’ assigning of causes to behavioral occurrences. Thus, Jones and Davis (1965) followed Heider’s lead in differentiating between vernacular inferences of personal and impersonal causality and continued with his emphasis upon stable individual characteristics. They referred to these individual characteristics as *dispositions*, while Heider had characterized dispositional properties as “invariances” of personal behaviors or environmental structures. Kelley (1967) further formalized the distinction by differentiating between attributions to external stable properties of the environment and internal stable properties of the person or self. By the early 1970s the distinction between stable personal and stable impersonal causes appears to have been superseded by a distinction between aspects of the person and aspects of the situation, whether stable or unstable. This distinction became incorporated in formal attribution theory as a distinction between *dispositional* and *situational* causes. Thus, in response to “why questions,” lay attributers might say, on the one hand, “He stole because he is dishonest,” “She left because she was afraid,” or on the other hand “She smiled because they were watching her,” or “He did it because I told him to.” The first two of these examples attribute cause to the person, and the last two attribute it to situations surrounding the action.

Since the late 1970s the differences between situational and dispositional definitions have remained generally consistent for most researchers. Thus, Monson and Snyder (1977) differentiated between current social and environmental pressures as contrasted with inner states, dispositions, abilities, or attitudes. For a number of authors the distinction has been simply between the situation and the self (e.g., Moore, Sherrod, Liu, & Underwood, 1979; Peterson, 1980). Quite often the distinction has been between the experimental setting and personality correlates such as ability, knowledge, traits, attitudes, or moods (e.g., Block & Funder, 1986; Frank & Gilovich, 1989). Hastie (1984) differentiated between attributions to information in the current environment and to information in memory, while Green, Lightfoot, Bandy, and Buchanan (1985) distinguished between “the stimulus” and the cognitive or motivational disposition. In all of these there is obvious acceptance of two clearly delineated classes of terms that play mutually exclusive roles in interpretive prose, consistent with our sketch of interpretive practice at the beginning of this essay.

While it is seldom explicitly acknowledged (we shall be noting a very few exceptions later), one can usually discern in attribution theorists’ prose that by “situation” they mean the context immediately attendant to the behavior of concern. Thus, an appeal to either the person-characteristics or to the situation in accounting for behavior is typically an appeal to contiguous causes. When clearly operative events are temporally separated from the behavior of concern,

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2 It should be noted that the meaning of “dispositional” in social psychology differs somewhat from its meaning within philosophy. Ryle (1949), for example, treated dispositional terms, including those that might be taken as describing mental states, as potential occurrences or patterns of behavior rather than as internal conditions with causal status; in contrast, attribution theorists typically treat dispositions as a class of attributed causes located within the person whose action is to be accounted for.
dispositional terms are nearly always invoked, thus providing a putative immediate agent or cause of the action.

The seeming reasonableness of this practice can be seen in psychological explanations that invoke the semi-technical term *internalization*. In common parlance, as well as in some psychological theories, this term comes into play when a person’s behavior becomes independent of immediate surroundings, as when a child is said to act on the basis of internalized values despite the ridicule of peers. The precise nature of the presumably internalized entities is difficult to pin down, and their explanatory status is questionable: What, precisely, is a “value,” and how, in rigorous terms, does such an entity translate into action? To be sure, important phenomena are at issue when one speaks of values, but while the term serves the social function of characterizing the individual as autonomous and responsible, it identifies only obliquely some remote events that the person’s behavior is or should be made sensitive to. Ironically, the literal meaning of “to internalize” something to a locus within the person obscures the fact that the person’s behavior has become more sensitive to events that remain remote from the person. Furthermore, if one addresses how the internalization came to occur, one is concerned with still other remote events—the person’s personal history of instruction or of direct interaction with other environmental events that result in actions in relation to remote consequences.

**Dispositioning**

Dispositional explanations of behavior can be occasioned by clearly and directly identifiable conditions within, or properties of, the behaving individual. We have no argument with these, provided they are not identified only through the behavior they are said to explain—but dispositional terms are often invoked when such conditions do not obtain. In situations that lack obvious contiguous causal events it is common practice to invoke verbal constructs that infer or assert the presence of reified entities within the acting persons and to assign causality to those entities. For these practices we have coined the term *dispositioning*, defined as the imputing (or more explicitly, hypothesizing) of an entity that is either given explicit status of causing behavior or that easily acquires such status by virtue of its patterns of use. The origins of the entity are usually not specified, thus lending it the character of autonomous agent. The term *dispositioning* is coined here with the prefix “dis” denoting separation, negation, or reversal and away or apart (as in displace or distal). Its root, “position,” comes from the Latin “positus” meaning situated or having been placed. It relates to the term *disposition*, for which Webster’s dictionary (1983) offers the following definitions: (1st) “the act or the power of disposing or the state of being disposed,” (2nd) “the manner in which things, or the parts of a complex body, are placed or arranged . . . ,” and (5th) “one’s customary frame of mind; one’s nature or temperament . . . ” (p. 529). This last variant is the one that seems most commonly assumed in attribution theorists’ use of the term “disposition,” but we shall see that the other variants are relevant as well. We use the gerund form of the term (*dispositioning*) wherever possible to
emphasize that it is ongoing psychological activity of interpreting, even though we examine it here via sequences of words that are static on the printed page. In the current context, examples of dispositioning would include references to entities such as personality traits, abilities, attitudes, values, opinions, emotions, moods, wants, needs, and drives, as well as metaphorical brain states such as associations, representations and schemata.

**Occasions of Dispositioning**

Several types of dispositioning can be discerned, and it is useful to distinguish them at least partly on the basis of the occasions in which they occur.

**Consistency Across Individuals.** Kelley (1967) proposed *consensus* as a potential determinant of attributional directionality. That is, when a person behaves as many others would behave in a given situation, cause is attributed to the situation; in contrast, when the person behaves distinctively, a dispositional attribution becomes likely (Hansen & Lowe, 1976; McArthur, 1972). Thus, if an individual gets up and yells “Fire” in a crowded theater when there are actual flames, most attributers would find the situation an adequate cause. In contrast, yelling “Fire” in a crowded theater without flames would result in dispositional attributions—appealing to the person’s delusions, sociopathy, and the like.

This effect of an individual’s consistency contrasted with variability across individuals can also arise in commonplace observations. For example, a person might comment upon having found Australian ales to be stronger than American ales, but the same person would say that he or she is allergic to house dust but not to ragweed. In each of these cases there are identified precipitating environmental events and the relevant physiological mechanisms are known, although these interpretive patterns surely antedate their discovery. Nevertheless, in the case of ales, where the differential effect is consistent for everyone, the behavioral effect is attributed to the environmental event; in the case of allergies, the comparable effect is attributed to a characteristic of the person.

**Consistency across Situations.** In many cases the key determinant of dispositional attributions is not consensus or conformity across individuals, but, rather, consistency across situations, of the single person whose behavior is to be interpreted. Here, dispositional attributions describe or refer to temporally extended relations or large-scale patterns of behavior. Mischel (1968) identifies this attributive pattern with the ubiquitous practice of assigning traits:

In these common sense explanations, traits are invoked not just as descriptions of what people do but also as the causes of their behavior. Thus in everyday practice traits may be used first simply as adjectives describing behavior (“He behaves in a lazy way”), but the description is soon generalized from the behavior to the person (“He is lazy”) and then abstracted to “He has a lazy disposition” or “He is unmotivated.” These descriptions pose no problems as long as their basis is recalled—he is construed as behaving in a lazy way and no more. (p. 15)
Thus, Mischel observed that repeated exposures to someone behaving in a lazy manner contribute to the trait attribution of a “lazy disposition” as explaining their behavior. Similarly, Buss and Craik (1980, 1983) propose that dispositional or personality variables might best be conceptualized as summary statements describing the frequency at which given types of acts occur. In their analysis, the measure of “an individual’s disposition is a multiple-act composite index, provided by a frequency summary across a specified period of observation” (1983, p. 106).

In a similar vein, Guerin (1994) has proposed that attitudes can be understood as descriptions generalized from large behavioral samples. He notes that while they may be maintained by external social contingencies, they typically are described as “internalized” personal elements. The resulting dispositional entities often are invoked as autonomous, in that they are treated as causes of behavior without themselves being accounted for.

**Implicit Historical Origins.** Even when a particular individual’s behavior is demonstrated to result from specific prior exposure to well-defined experimental procedures, there is a high probability of accounting for that behavior in terms of the individual’s dispositional characteristics instead of appealing directly to the environmental events of the procedure. A striking example is provided by Merzenich et. al. (1996) in describing and discussing their computer-game training technique for teaching language-learning-impaired (“LLI”) children to discriminate between acoustic stimuli with differing patterns of rapid phonemic change. On one hand, the authors describe a training arrangement that begins with easily discriminable stimuli, gradually making them more difficult while systematically reinforcing the child’s differential reactions to those stimuli. Their computer-game training procedures are based upon principles that are defined entirely in terms of behavior–environment relations. Indeed, except for the technical details of manipulating acoustic stimuli, they are the techniques that B. F. Skinner proposed a half-century ago for the design of teaching machines and programmed instruction as straightforward implementations of environment-based behavioral principles. Coordinate with the observed effectiveness of that arrangement, the authors propose that “there may be no fundamental defect in the learning machinery in most of these (LLI) children, because they so rapidly learn the same skills at which they have been defined to be deficient” (p. 80), and that the learning deficit originates in the child’s learning history. Nevertheless, Merzenich and colleagues interpret their intervention dispositionally, as remediating “a defective representation of speech phonetics” (p. 80). Relatedly, in introducing a marketable training program based upon this research, Bolton (1998) asserts: “Our brains identify sounds by recognizing the most distinguishing characteristics...” and then interprets the effects of the training program as having “trained their brains to process information more differently and more successfully” (p. 3). These appeals to brain function are gratuitous; the child is trained and identifies sounds. To be sure, the child’s brain is involved, but neither the training technique nor the assessment of its effectiveness is based upon neurological principles.
Implicit Future Consequences. We have found that when people are shown brief videotaped episodes of human interactions and then asked why a person in the video had behaved in a particular way, a frequently offered explanation is one that identifies a potential environmental consequence of the behavior but specifies the cause as the person’s need or desire for that consequence. For example: “The girl hit her brother because she wanted her mother’s attention.” Many readers will find nothing wrong with this characterization; however, the appeal to “need for attention” does not tell us how this, rather than some less problematic behavior, came to predominate. Furthermore, if we are to eliminate the abuse of the girl’s brother we need to change not the importance of her mother’s attention, but, instead, the girl’s way of producing that attention. Thus, the behavior–environment relation, not the disposition, is the key issue if one is to remedy the problem or to understand how it came to occur. Desires, intentions, reasons, and purposes are all dispositional in character, for they place the agency of action within the organism. Their bringing the future into the present makes them teleological in character.

Integrative, Meditational, and Teleological Dispositioning

Most of the occasions of dispositioning identified above have a distinct feature in common: they involve temporal separation between an action and its related environmental events or temporal dispersion of the relevant actions and/or events. At the same time, the occasions fall into three fairly distinct types that suggest three functional categories of dispositioning, for which we offer identifying terms.

Integrative dispositioning occurs when temporally extended or dispersed events are collapsed into a single locus by invoking a reified entity that then functions in explanations as an aspect of an organism that seems present at every moment. The label for the resulting entity, such as an attitude or a personality type, neither explicitly identifies distal events nor the origins of the entity; thus, the entity is treated as autonomous. Funder (1982) offered a systematic characterization of this practice, noting, for example, that if a given individual smiles frequently, the dispositional trait of “friendly” will be ascribed to that person. He proposed that while they imply agency as residing in such traits, these dispositional attributions would be better understood as describing large patterns of a given actor’s behavior.

Subsequently, and even more systematically, Rachlin (1992, 1994) noted that mentalistic terms are often used as “descriptions of molar behavior—acts extended in time” (p. 14), and he argues that most “psychological” terms are of this kind. To the extent that such terms are taken as portraying an internal mental life, Rachlin finds them as misdirecting our attention away from the extended, mainly external relations that are the basis for any coherence that such terms might have.

3 Although adequately addressing Rachlin’s “teleological behaviorism” (1992, 1995) is beyond the scope of the current essay, it should be mentioned that Rachlin has addressed many of the same issues as are covered here, and in so doing he has provided a very sophisticated analysis. However, on one specific point, his conclusions differ markedly
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*Meditational dispositioning* occurs when inferred entities are explicitly characterized as bridging temporal gaps that are discerned when remote events clearly affect behavior. Thus, terms such as memory traces and emotional states are posited as entities within the organism that serve to anchor current behavior to past events. Watkins (1990, p. 329) argues that much of memory research is hobbled by its pervasive *mediationism*. He uses the term to refer to the doctrine whereby remembering an event requires the embodying of a representation of that event in a “memory trace” that is said to bridge the temporal gap between an event’s occurrence and its recollection. Although Watkins’s use of the term is very specific to the area of memory research and theorizing, many of the same factors contribute to dispositioning more generally. A mediational entity differs from an integrative entity in that the mediational one is characterized as bridging a temporal gap between a specific distal event and a current setting, whereas the integrative one is taken as encompassing and presumably accounting for dispersed events, some of which may be only implicitly specified.

These first two classes are by no means mutually exclusive, for many cases entail both. For example, mixed cases arise when there is implicit anchoring upon specific prior events, as when someone speaks of “suppressed rage” arising from a specific past precipitating event. A mood is an autonomous integrative entity, but it may also be mediational if it is anchored to some remote precipitating event. Some cases do, however, distinctly exemplify one or the other; for example, the reifying conversion from “remembering” to “memory” is mediational dispositioning, for it is nearly always anchored to specific distal events, and only in a very weak sense would a memory be considered an autonomous entity. At the other extreme, a character trait is not usually tied even implicitly to distal events, and thus is a purely integrative entity that is treated as autonomous.

*Teleological dispositioning* occurs when an action is interpreted by identifying its likely, often remote, consequences. In many cases, past consequences of the individual’s similar actions affect the present action. Here, dispositioning serves to import those past events into the moment of action by from those we shall present. He endorses adopting into formal psychological theory the terms that are described as reified entities here. He defines his teleological behaviorism as: “The belief that mental terms refer to overt behavior of intact animals. Mental events are not supposed to occur inside the animal at all. Overt behavior does not just reveal the mind; it is the mind. Each mental term stands for a pattern of overt behavior. This includes such mental terms as ‘sensation,’ ‘pain,’ ‘love,’ ‘hunger,’ and ‘fear’ (terms considered by the mentalist to be ‘raw feels’), as well as terms such as ‘belief’ and ‘intelligence’ that are sometimes said to refer to ‘complex mental states,’ sometimes to ‘propositional attitudes’ and sometimes to ‘intentional acts’” (pp. 15-16). He is obviously sensitive to many of the same issues that are raised in the current essay, but in light of the current analysis one aspect of his suggested solutions (that of including these “mental terms” and teleological descriptions into formal psychological theory) seems problematic. The dispositioning that occurs within formal psychological theory is of a kind with vernacular dispositioning: The reification and assigning of cause with its implicit agency occurs even when one makes explicit that the relevant terms are merely labels and not actual entities or things.
characterizing the cause of the present behavior as a present desire for, or intention to, produce that kind of consequence. The relevant past events are separated in time, and future events are disallowed as causal because they are remote and because time does not run backwards. The interpretive problem arising from these implicit constraints is solved by giving causal status to a “desire” or to an “intention” that identifies remote events that the current behavior is related to.

In other cases, as we shall describe in detail later, the action to be interpreted is an explicit reaction to verbal statements and not to the individual’s having previously engaged in the behavior of concern nor having previously experienced the putative consequences of that behavior. The relevant history, then, is one of having learned to react to verbal descriptions of events rather than to the events themselves. The distinction between teleologically interpreted novel behavior that is verbally mediated and that which is non-verbally generated will sometimes be quite subtle. For example, one might learn the higher-order class (Catania, 1995) of generalized imitation without verbal involvement, as detailed by Gewirtz (1971). Describing this behavior in terms of an objective of “doing whatever someone else does” but not assuming its dependence upon verbal processes would place the behavior back in our first category of teleological dispositioning.

Our Own, Non-Dispositional Account of Dispositioning Itself

So far as they go, these characterizations of interpretive practice are of a piece with the one we sketched at the beginning of this essay, identifying explanations as systematic attributive patterns within a community or culture. Understood in this way, a person’s interpretive patterns are seen as evolving roughly as follows⁴: Initially, the child is taught to say, for example, “dada” in the presence of a particular person or “choo-choo” or “ball” in the presence of particular, albeit open-ended and “fuzzy” sets of objects (father as seen from various angles; a variety of balls or vehicles). Doing so results in differential consequences of enthusiasm or approval. As a result of this, the child comes to discriminate between categories and generalize within categories—that is, to behave similarly with respect to category members and differently with respect to members of different categories. As Palmer and Donahoe (1992) have clarified and discussed in detail, this category membership arises directly through these differential practices of the verbal community (whose evolution can also be understood through selective principles, but on a much expanded scale) rather than through formal definitions, templates, or prototypes. It should be noted that the establishment of functional categories is not exclusively a verbal or even a social

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⁴ This sketch focuses upon the limited range of discriminations and locutions that are most relevant to the acquisition of interpretive/attributive language. For a broader, intensive examination of relevant data based upon parent–child interactions, see Moerk (1986, 1996), and especially his re-analysis of a famous data-set from Brown (1973) that has traditionally been misinterpreted by ignoring many thousands of consequences, and their likely selective effects, residing in parents’ differential reactions to their children’s utterances (Moerk, 1992; Salzinger, 1994).
process. For example, one comes to discriminate ripe from unripe fruit and comfortable from uncomfortable surfaces from the direct consequences of eating or sitting, but we continue here with an emphasis on verbal relations. Through comparable sequences of behavior and consequence—processes of differential reinforcement involving imitation, successive approximations, and gradual elaborations—the child’s particular utterances come to be occasioned by particular features of objects, as in color-naming, and then by relations between objects, as in “larger,” “closer,” and “above.” Dynamic environmental events, such as relative motions of or between objects and organisms, provide the occasions for particular classes of word sequences to be reinforced, including the class of transitive verb locutions, which implicitly or explicitly attribute causation. In the course of this, the “directionalities of locution” (environment–behavior vs. organism–behavior) come to be occasioned in conventional ways. For example, generating subject–predicate (or noun–verb, or noun phrase–verb phrase) sequences with dispositional terms in the subject or noun position are more likely to be reinforced if they are occasioned by someone else’s actions. In contrast, generating similar sequences but with situational terms in the subject or noun position is more likely to be reinforced if those statements are occasioned by one’s own actions. The differing occasions, of course, are those of “being the actor” and “being the observer,” as pointed out by Jones and Nisbett (1971), whose study of this differential pattern was one of the foundational contributions to attribution theory.

Adult, continuing members of the community also are subject to contingencies that maintain particular interpretive patterns within particular types of situations. That is, while each of us sometimes speaks in organism–behavior locutions and sometimes in environment–behavior locutions, the verbal community continually reacts differentially to our speaking one way versus the other in particular types of situations. For example, in accounting for a colleague’s witty lecture, you might describe it dispositionally as a product of her wry sense of humor and brilliant sense of timing. On the other hand, if you offered a similar account when prompted to comment on your own lecture, your audience would probably react to the account as conceited and socially insensitive (thus, again, the differential patterns of actor’s and observer’s attributions). Or, if a person were to violate another attributive convention by categorically asserting “I get more tipsy from a liter of wine than from a liter of beer,” or “Ragweed is more allergenic than house dust,” the listener would be likely to chide: “Oh, really?” in the first case and “Speak for yourself!” in the second. As we pointed out earlier, environmental determinants are the norm when everyone is affected similarly (wine vs. beer), whereas idiosyncratic effects (allergic reactions) are normally attributed dispositionally. But in both cases the effects depend equally upon identifiable environmental events and specific physiological mechanisms. In ordinary parlance, these patterns are maintained as orderly relations in the activities of the verbal community, irrespective of which might be rigorously identified as causal relations.
The Fundamental Attribution Error

At this point it is relevant to note a phenomenon, and its identifying term, that is related to the situation/disposition distinction and has gained general acceptance in the literature on attribution theory. It was Heider (1944) who first suggested that people tend to ascribe entirely to persons, changes in the environment that produce persons’ actions in combination with other factors. He noted, for example, a tendency to see the causes of other people’s successes and failures “in their personal characteristics and not in other conditions” (p. 361). This asymmetric directionality of attributions—of ascribing influence to persons rather than to the environment in accounting for their behavior—has been termed the fundamental attribution error (Nisbett & Ross, 1980; Ross, 1977) or, relatedly, the correspondence bias (Gilbert & Jones, 1986; Gilbert & Malone, 1995). Ross (1977) described the fundamental attribution error as “the tendency for attributers to underestimate the impact of situational factors and to overestimate the role of dispositional factors in controlling behavior” (p. 183).

The robustness of the fundamental attribution error has been verified repeatedly, with one of its earliest experimental demonstrations being described by Jones and Harris (1967). They found that their subjects attributed the content of assigned essays to the essay writers’ attitudes (dispositional entities) even when told that each essayist’s topic and side of argument were dictated by the experimenters (a situational constraint). Similarly, Nisbett, Caputo, Legant, and Maracek (1973) reported that when asked to say why some people had volunteered to participate in the experiment, their subjects discounted the amount of compensation offered as an inducement to volunteer and instead attributed other subjects’ behavior to their likelihood to volunteer (a dispositional character trait). Both of these studies illustrate people’s attributing to dispositional entities, attitudes, or character traits.

One of the more powerful determinants of attributional directionality identified by attribution theorists as yielding the fundamental attribution error is the attributer’s spatial perspective. Jones and Nisbett (1971) proposed that the attributions of actors differ in important respects from the attributions of observers. They noted that when accounting for one’s own behavior (thus interpreting from the actor’s viewpoint) one tends to attribute cause to the situation, but when accounting for the actions of others (as an observer) one tends to appeal more to an aspect of the person observed. In an innovative study using video cameras, Storms (1973) illustrated the profoundness of this effect. Following a get-acquainted session that was videotaped from several camera angles, subjects were asked to respond to an attributional questionnaire either immediately after the session or after being shown a videotape of the get-acquainted session with camera focused upon only one individual. As attribution theory would predict, Storms found that actors attributed their own actions as caused by situational factors and observers attributed those same actions as dispositionally caused. The startling result was that when actors were shown a videotape of themselves in the get-acquainted session (i.e., they saw their own behavior from the viewpoint of observer) they attributed
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their own behavior to more dispositional causes (see also Lassiter & Irvine, 1986). These dispositional causes were “personal characteristics. . .personality, traits, character, personal style, attitudes, mood, and so on” (Storms, 1973, p. 168, underline in original).

We propose that an additional major determinant of the fundamental attribution error is the lack of an environmental event immediately attendant to the behavior in question—which translates as an implied (if not explicit) assumption of contiguity as necessary for causation. The ubiquity of assumed contiguous causation in ordinary-language explanations of behavior is illustrated by each of the three types of dispositioning that we characterized earlier. An integrative dispositional term compresses a dispersed pattern of action to the moment of a particular act that is part of that pattern, “inserting” an autonomous agent as present at that moment. Teleological dispositioning of the form that identifies the effectiveness of a future consequence by appealing to needs or desires for a type of event that the actor has previously experienced places those needs or wants at the moment of the action, as surrogates of the events themselves. Mediational dispositioning explicitly does the same, whether the mediating event is taken as bridging a gap in time from a remembered event, or whether it is a verbal product of interrelated descriptions in teleological dispositioning, as in the case of reacting to a prediction of something one has not previously encountered. In each, a dispositional entity is portrayed as present at the moment of an action, thereby accounting for patterns of action dispersed over time or for particular actions in relation to remote events.

A Non-Dispositional Account of Scientific Explaining

Returning to our account of the development and maintenance of interpretive talk, scientific practice and explanation are commonly understood as differing from the vernacular in important ways. They are often characterized in terms of logic and quantification, with “objectivity” as a standard that is traditionally valued, whereby the validity of an assertion is to be judged not by who said it, but instead by its logical coherence and its relationship to empirical facts. Even in general science textbooks for children one can find formalized rules for proceeding: “State an hypothesis; devise an experimental test that will either support it or lead to a new or refined hypothesis.” In scientific specialties there are more detailed guidelines for practice; undergraduate curricula of psychology reflect this with courses on research methods that introduce models of scientific explanation with advice and techniques for rigorously evaluating them. At the graduate level the techniques are more complex and evaluations more subtle, but the story is basically the same. Throughout, we assert that explanations are to be accepted only provisionally and as validated by objectively gathered data rather than accepted on the basis of our finding them congenial or consistent with our preconceptions. The “fundamental attribution error” was given its label because people were seen to explain behavior by appealing to characteristics of the actor when environmental events had demonstrable, predicted, orderly relationships to
that behavior irrespective of the individual’s personal characteristics. Thus, scientific prose is understood to be distinctive not just for its technical terms but especially for its focus upon relations between data and conclusions, whether it takes the form of direct empirical generalization or of formalized hypothesis testing. Perusing successive decades of a given psychological journal, one can discern evolving standards for precision in describing experimental procedures, and sometimes of conceptual sophistication in describing and interpreting data, especially when quantification is involved. Thus, one can discern that the characteristics of scientific method and practice have been dynamically developed and maintained by an evolving special community.

In addition to addressing the practices of dispositioning per se, the temporally dispersed historical account that we have outlined can also address the nature and role of verbal functioning in actions that are the focus of dispositional statements— including the role of scientific statements in affecting other behavior. Thus, while we identified one type of teleological dispositioning that mistakenly invokes verbal involvement in behavior that results directly from past consequences of similar behavior, we also noted a second, verbally-mediated type where it is important to recognize the genuine involvement of verbal reasoning and awareness in overt actions. Teleological dispositioning of this second type is more accurate in that the behavior of concern is an explicit reaction to verbal statements, as the dispositioning suggests or implies, and not to the individual’s previous direct exposure to the specified consequences and related events. The actor may or may not have experienced specific past consequences resembling the putative future ones at issue. Having acquired the skill of describing response–consequence relations and of acting adaptively with respect to such descriptions, one might generate such a description upon observing their own or someone else’s behavior produce a notable consequence. Moreover, having discriminated a combination of events and having learned to describe their relationships in terms of explicit rules, one might then recombine or otherwise modify those descriptions. Then, if one also has repertoires of rule-following and if other conditions favor it, one acts with respect to the resulting descriptions. The process of learning to formulate rules and to follow them can be observed in children’s activities on most any playground. In improvising games or modifying standard ones children learn to state rules, to manipulate and argue about them, to act with respect to them, and to discriminate actions (of self or others) as being in accordance or in conflict with them. One can also discern the distinctness of the repertoires of rule-stating and rule-following in those situations as well as in adult situations such as those of assembling new computer or stereo sound systems. At one extreme, some people read the instruction manual and meticulously follow it step-by-step. At the other extreme are those who “jump right in” and try to make the thing work by manipulating it.

Through these repertoires of stating and manipulating rules that entail generically related relationships, one can even react to verbal descriptions of potential future events of a kind that no one has previously experienced (the actions typically are attributed to the actor’s intentions and desires regarding those events, rather than to the descriptions themselves; hence the relevance of
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dispositioning). Such repertoires are developed and maintained first by acting in relation to predicted events of familiar kinds, as in weather forecasts or in using a personal date book. They are less well maintained when the verbal descriptions and their logical interrelation are far removed from direct experience but still similarly interpretable. For example, our discontinuing the use of chlorofluorocarbons as refrigerants was a reaction to predictions of future events (depletion of the ozone layer in the upper atmosphere), which depended upon peoples’ reports of observations of related phenomena. If no experiments had resulted in observations relevant to the prediction, the prediction would not have occurred—or if it did occur it would not have been taken seriously. Nevertheless, people reacted to the interrelated descriptions of various past events, those descriptions combined into a prediction, rather than to those events themselves or to the future events that were predicted. The addition of possible futures through elaborated verbal relations (stating of rules, sometimes in quantitative terms; rule-manipulation; and rule-following) warrants handling these practices separately from those in which the behavior can be accounted for in terms of the individual’s direct exposure to the relevant classes of events. To recapitulate this somewhat belabored point: when the interpretation appeals to the person’s actual predictive descriptions a dispositional interpretation can be valid as accounting for a person’s action with respect to the predicted events. In contrast, when teleological interpretations are addressed to cases where the actor has previously encountered similar consequences of comparable behavior, the causal status of the teleologically dispositional terms is questionable.

Thus, in our account of the practice and prose of the individual scientist, the details differ, but the processes remain much the same as we sketched for the development of explanatory talk of citizens in the vernacular community. Some statements are complied with or approved (i.e., reinforced) while others are criticized or ignored (punished or extinguished). To the extent that the scientific community remains distinct and true to its explicit principles, the contingencies for these consequences should be concerned, above all, with the match between explanations and data. The prose conventions to be thus selected are not only those of “objectivity” that such a match implies but also conventions of at least semiformal logic, as in the formulation of explicit predictions and in their equally explicit evaluation. To the extent that the latter is involved, it is to be understood as extending and elaborating peoples’ repertoires of rule-stating and rule-following—differing in formal and quantitative rigor (but not in functional characteristics) from behavior with respect to declarative rules in the culture at large.

In all of this, the differential patterns of behavior exist as patterns of interpretive talk, dispersed in space and time throughout a verbal community—impalpable, in that one can “look right through” the temporal gaps in an ongoing pattern. Nevertheless, the patterns are measurable and as real as any structure that is conventionally addressed by scientific method. Dispersed as they are, the patterns may seem less tangible than an inferred, spatially compact mental construct that one can assume to be located directly behind an actor’s eyes. Lacking that putative location contiguous to the action, they may seem less
satisfying as sources of agency. On the other hand, description of such patterns aptly portrays the quicksilverish, dynamic nature of processes whereby social groups establish and maintain verbal practices, including those of attributing. Such descriptions explicitly address how a verbal community teaches such patterns to children and to other new members through the differential reactions of acceptance and rejection, compliance and noncompliance. Just as, applied in detail, the same principles account for one child’s lying and another’s truth-telling, they account for a person’s dispositional interpreting of behavior in one context and the same person’s situational interpreting of behavior in a different context.

Other Explicit Recognitions of Extended Time Relations

Four decades ago, Daryl Bem (1967, 1972) advanced a temporally extended account of attributional processes in describing a theory of self-perception. His formulation portrayed one’s perceiving and describing oneself as a repertoire or skill—a skill generalized from the previously learned behavior of describing and discriminating actions and characteristics of others. Bem contrasted his account with that of cognitive dissonance theorists, noting that his interpretive principle was that of straightforward empirical generalization, appealing to the individual’s past history in terms of principles that had been systematically verified through laboratory experimentation. He supported his view with numerous experiments demonstrating the “dissonance phenomena” in subjects’ descriptions as applied to others rather than themselves, where personal inconsistency should not have induced dissonance within the interpreter. Bem characterized dissonance theory as appealing explicitly to deductive principles, but, he argued, they did so only through unacknowledged generalizing from their own unformulated experiences of being raised by the same social community as their experimental subjects. Thus, he identified dissonance theory as also based upon empirical generalizations, but only in an implicit and unprincipled way. Bem’s alternative account seems to have been ignored by mainstream psychology. We surmise that the key theoretical issues concerned not the merits of deductive versus inductive reasoning but, rather, Bem’s acceptance of functional relations across time without appealing to hypothesized mediating events that would preserve the assumption of contiguous causation. Dissonance theory, in contrast, accommodated that assumption through the practice of dispositioning, re-casting the subject’s past history as inferred from an immediately attendant mediating process.

In the years since Bem’s temporally distributed account of cognitive dissonance phenomena, a few additional theorists in social psychology have characterized temporally dispersed events as such. For example, Funder (1982) addressed the phenomena that we have called integrative dispositioning, and he differentiated the time scale of relations that enter into dispositional attributions from those that enter into situational attributions:

The major difference between situational and dispositional attributions is not one of accuracy, but of level of analysis. Situational attributions describe environmental circumstances associated with behavior, while dispositional
attributions are intended to describe how a given action fits into the larger pattern of the actor’s behavior over time. (p. 207)

Funder’s statement of the issue clearly accommodates temporal dispersion within behavior patterns; however, his essay emphasizes contiguous antecedent events as defining the situations relevant to the behavior of concern, and when (perhaps remote) consequences of behavior are involved he converts those external events into dispositional “wants” or “attributional goals,” which, of course, are construed as contiguous with the behavior (e.g., p. 218).

A few attribution theorists have ventured even further toward abandoning the crutch of contiguous causation. Thus, Semin, Fiedler, Greenslade, Maas, and Bolten, among others, have focused upon linguistic practices as configuring/influencing the processes of attribution (e.g., Fiedler, Semin & Bolten, 1989; Maass, Salvi, Luciano, & Semin, 1989; Semin & Fiedler, 1988; Semin & Greenslade, 1985). They assert that linguistic practices or linguistic factors can be understood as a part of a “pervasive structural constraint with the human environment, namely language” (Fiedler et. al., 1989, p. 272) and consider the “possibility that some causal schemata and attributional biases may be located in language as a collective store outside the memories of individual people” (Fiedler & Semin, 1992, p. 81). This appears to be a major shift from these authors’ earlier formulations. Rather than imputing cause to a contiguous dispositional person variable, which they previously (Fiedler et. al., 1989) had referred to as intrapsychological processes like motivational, emotional, or cognitive factors, they refer to aspects of language as influencing attributive directionality. Language and linguistic practices, as their 1992 article conceptualizes them, are temporally extended relations. Also of interest is their inclusion of representations as an aspect of language external to and apart from the individual rather than as an internal construct (Fiedler et. al., 1989, p. 272). Edwards and Potter (1993) also seem sensitive to the constraints that language per se places upon attribution. In their Discursive Action Model they emphasize that “causal attributions, both inside and outside the laboratory, can fruitfully be studied as social acts performed in discourse and not merely as cognitions about social acts” (p. 23). Their approach takes the focus out of cognition and puts it back into interactions, which makes the psychological account consistent with the treatment of remotely-related events that, as we have described, was adopted long ago in most of the natural sciences. Pragmatically, recognizing the extended relationships as such enables one to work directly with the variables that occasioned the attributive statements.

Gilbert and Malone (1995), in a reconceptualization of the correspondence bias, appear to be extending what is meant by “the situation” to encompass spatially and temporally noncontiguous aspects of the environment. In a discussion of how the lack of awareness of situational constraints might contribute to the correspondence bias, they state:

We suspect that such awareness is often difficult to achieve in everyday life because many situational forces are temporally or spatially removed from the behavioral episodes they constrain. Social norms and parental threats are potent
forces that physically exist only in the brains of the people whose behaviors they are constraining, and nothing in the behavioral episode itself may bring these forces to the observer’s attention. (p. 25)

As can be seen, these authors include temporally extended interactive behavior–environment relationships (social norms and parental threats) as basically situational, but then they dispositionize these relationships by asserting that they “physically exist only in the brains of the people whose behaviors they are constraining” (p. 25). It seems difficult for theorists to recognize that the social norms and parental threats physically exist as temporally extended patterns of behavior and consequences within a community or culture. Indeed, in contrast with the few we have cited here, most theorists seem not to even recognize a role of temporally extended events within their interpretations.

The Pervasiveness of Dispositioning in Formal Psychological Theory

Ross and Nisbett (1991, p. 8) noted that one reason to study ordinary-language attributions is that the inadequacies of lay principles are likely to be revealed. Indeed, we have suggested that, in psychological interpretive practices of the culture at large, pervasive dispositioning obscures extended time relations. One might think that formal psychological theory, being grounded in scientific epistemology and method, would have abandoned the assumed necessity of contiguous causation, giving less privileged status to dispositional explanations of behavior. Instead, precisely the opposite appears to be the case, for one need not look far to find psychological interpretations that display a preponderance of dispositioning. For example, clinical diagnoses often move beyond classifying observations to the invoking of reified and even causal status: “He acts that way because he has a borderline personality disorder,” or “Her agoraphobia prevents her from going to work.” Such diagnoses are even given official authorization: (e.g., “compulsions [are] repetitive. . .behaviors performed in response to an obsession”; American Psychiatric Association, 1987, p. 145). Despite their technical terms, such interpretations closely resemble those of ordinary language with respect to both the assumption of contiguous causation and the practice of dispositioning. We shall focus here, however, upon a couple of areas within psychology where one might expect theorists to be especially attuned to dispositional biases within their own theorizing. They appear to be subject to the same patterns that have been so extensively explored and even identified as “errors” by psychologists themselves.

Explicit Inclusion of the Vernacular

Fletcher (1995) has extensively discussed the overlap between vernacular, or “folk,” psychology and scientific psychology, identifying two distinct ways in which vernacular interpretive terms or practices can be used in formal psychological interpretation. Regarding the first (“Use i”), he argues that any adequate account of human behavior must account for the role of peoples’ own
psychological theories—whether naive or sophisticated—as one of the determinants of their own behavior. In “Use 2” he argues that concepts and interpretive practices from folk psychology can be legitimately incorporated into scientific psychological theory, but he acknowledges that this must be done with great care.

Regarding his Use 2, Fletcher builds a case that folk psychology actually has more in common with scientific psychological theorizing than is usually acknowledged. To support that case he portrays the latter in terms of a detailed listing of aims, epistemic values, and methodological rules of scientific cognition, and he goes on to discuss ways in which folk-psychological theorizing is consistent with that list of characteristics. He asserts, further, that their limitations or shortcomings are also similar. To be sure, Fletcher acknowledges the logical flaws in folk psychology that have been identified and studied, including the confirmation bias, insensitivity to base-rate data, and even the correspondence bias (i.e., the fundamental attribution error). He claims, however, that “under conditions that encourage an in-depth and careful processing of the stimulus materials, compared to superficial and causal analysis, correspondence bias will decrease” (p. 74). Similar arguments are offered regarding the other distortions as well. To his credit, Fletcher concludes with a chapter that includes caveats:

Scientific. . .(in contrast to folk). . .theorizing is committed to the principle that theories need to be laid out in explicit detail, including its assumptions or axioms. It is ironic, therefore, that one major way in which scientific psychology fails down, is the way in which folk psychology is sometimes unconsciously or willy-nilly incorporated into psychological theories. . . (Fletcher cites personality theories as an example)

The pervasive, taken-for-granted, feature of folk psychology is what makes it an inherently dangerous resource for scientific psychology. My own impression is that folk psychology is built into scientific psychological theories in a more thoroughgoing fashion than is commonly realized by psychologists or cognitive scientists. Ideally, folk psychology should be incorporated into scientific formulations in the same way as any other theoretical or knowledge base—in a critical and disciplined fashion. (p. 97)

Remarkable in all this is the fact that Fletcher seems not to recognize the extent of dispositional bias within his own prose. Throughout his book he clearly construes psychological theory as necessarily dispositional in character—sometimes of the type we have identified as mediational dispositioning, sometimes the teleological type. Most generally, the lay person’s attributive theorizing is consistently portrayed as a dispositional characteristic of that person; more specifically, Fletcher grants causal status to the lay interpreter’s beliefs and other dispositional characteristics, including beliefs about other peoples’ beliefs (p. 10), as integral to a scientific accounting of the lay person’s behavior. His more technical accounts are also thoroughly dispositional. For example:
Fletcher and his colleagues, and others, found that subjects who possess complex attributional schemata produce more accurate trait and attitude judgments than do those with simple schemata, but that such an advantage only appears to be manifested under conditions that encourage in-depth processing that is goal driven. (p. 75)

Note the failure to acknowledge here the should-be-provisional status of “schemata” and “processing.” As used, they illustrate rather loose mediational dispositioning, for there is no indication of how such entities might generate behavior. Even the environmental conditions that are acknowledged are characterized indirectly, via presumed effects upon mediational processes that are specified only vaguely.

Other psychologists explicitly ignore the shortcomings of the vernacular when embracing it in their interpretations. For example, John Garcia, a prominent researcher on biological factors in conditioning, asserts:

I always use anthropomorphism and teleology to predict animal behavior because this works better than most learning theories. I could rationalize this heresy by pointing to our common neurosensory systems or to convergent evolutionary forces. But, in truth, I merely put myself in the animal’s place, I cannot think in the cryptic jargon of learning. (quoted in inside cover of Kalat, 1995)

As to what is “cryptic jargon,” Garcia apparently has no difficulty adopting the arcane labels of physiological structures into his interpretive prose. These, of course, conform to the vernacular patterns of dispositioning and supply plausible chains of contiguous events between environment and behavior.

Dispositioning in Theories of Attribution

Because attributional theorists have provided the most extensive exploration of attributive directionality, their own formal theoretical and empirical prose is a particularly appropriate area to examine for possible conformity to the same patterns of speaking and writing. The purpose of this is not to single out attributional or social psychological theories for special criticism, but rather to make salient that these “errors” occur even within the prose that we might expect to be most attuned to them. Our assertions regarding this are based upon exploring a substantial set of attributional publications from the last 30 years. With no special effort to find unusual or obscure pieces, that exploration easily yielded an extensive collection of attributive instances that are very similar to ordinary-language dispositioning. We present a small sampling here, with the dispositioned entities indicated in italics.

Jones and Nisbett (1971) proposed that people typically appeal to situational constraints in accounting for their own actions and that, in contrast, observers tend to emphasize the causal role of stable dispositional properties of the actor. In a paper addressing this directional bias they stated that they
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. . .wish to explore what we believe to be powerful cognitive forces impelling actors to attribute their behavior to the environment and observers to attribute that same behavior to characteristics of the actor. This tendency often stems in part from the actor’s need to justify blameworthy action, but may also reflect a variety of other factors having nothing to do with the maintenance of self-esteem. (p. 2, italics added)

Almost all formally psychological explanations are made from the standpoint of the observer, which, of course, is a situation rather than a disposition (Hineline, 1986, 1990). Thus, these authors are functioning as observers when they attribute the fundamental attribution error to “powerful cognitive forces” (i.e., dispositional characteristics within the actor).

A related group of apparent dispositioned variables within attribution theory are those concerning control: “desires to,” “feelings of” as well as “need to control.” In a chapter examining the possibility that attributions function primarily in the facilitation of control, Wortman (1976) states that “people make causal attributions in order to enhance their feelings of control over their environment” (p. 23, italics added). She presents “Evidence that people’s attributions are affected by their desire to control their environment. . .” (p. 28, italics added). Ironically, one of the categories of evidence she presents in support of her hypothesis is a further dispositional assertion, that “people underestimate the extent to which their behavior is controlled by situational or external forces” (p. 28). Miller and Norman (1975), in a study distinguishing actor–observer differences with respect to active versus passive observers, also concluded:

. . .that the need of the actor to see himself as exercising effective control over his environment mediated the present results as well as those found in previous studies. (p. 503, italics added)

In still a third study, Miller and Porter (1980) state:

From this perspective, the attribution of causality for present events to impersonal dynamics or physiological states may be avoided because this would reduce the individual’s sense of control. To believe that they are in the grip of some dynamic or forces that are at once inevitable, uncontrollable, and impersonal may be so disturbing to people that they are motivated to deny this prospect. (p. 537, italics added)

Further exemplars of dispositioning in terms of needs or similar terms include Taylor and Koivumaki’s (1976) conclusion that attributive directionality might be influenced such that “a desire to present oneself and others in a positive light dominates over cognitive processes” (p. 407, italics added). Similarly, for Deci (1975) “the attribution process is intrinsically motivated and that whether a person makes an attribution and how he makes it depends on his own intrinsic needs” (pp. 269-270, italics added).

Some dispositioning in psychological theory invokes terms such as “schemata” and “representations,” which are more explicitly related to formal
theory than are the “needs” and their variants identified above. This kind of dispositioning can initially be seen with Kelly’s (1971) *causal schemata*, whose origins were recognized as deriving from the attributor’s past experience observing cause–effect interactions. In most cases, however, those historical origins go unrecognized. For example, Green, Lightfoot, Bandy, and Buchanan (1985) identify the fundamental question to be dealt with in attribution theory as concerning immediate situations in which people make “stable, internal, dispositional attributions” (p. 160). In their model, which is based upon Taylor’s (1981) “cognitive miser” approach, the attribution process starts with attention, an entity or process influenced by cognitive, motivational, and stimulus factors. Once attention is focused by these factors, other variables are said to determine the final attribution. The attributional dispositioning appears fairly extreme here:

In making attributions for strangers, *expectancies based on the script* that governs the behavior and *the person schema* for the person performing the behavior are important in determining the final attribution. *Scripts (or event schemata)* are verbally or nonverbally *encoded prototypic sequences* of behaviors in a given situation. *Person schemata* . . . are verbally or nonverbally *encoded prototypic representations* of individuals or groups. (p. 164, italics added)

Subsequently, several attributional theorists have borrowed heavily from the representational explanatory systems of cognitive psychology. Miller, Ashton, and Mishal (1990), in a study investigating the effects of features of constrained essays that illustrate thematic variations upon the fundamental attribution error, began by asking “What are the cognitive foundations for the expectation that features of an assigned essay will be informative as to the writer’s attitude?” (p. 636). They concluded:

As conceptualized in this article, the FAE is not a simple judgmental accident or mistake, either present or absent in all or none fashion. Rather, it is an outcome, varying in magnitude, of the perceiver’s processing of constrained behavior according to a highly ingrained, preexisting cognitive structure—an implicit theory of constraint. These implicit theories consist essentially of the expectations that people have regarding the influence of dispositions on the features of constrained action. (p. 648, italics added)

Vallacher and Wegner (1987) make explicit their requirement for an immediately contiguous causal agent in formal attributional prose:

Strictly speaking, of course, the proximate cause of behavior is always personal, inasmuch as behavior is initiated and guided by a mental representation of the behavior. The issue thus becomes one of locating the source of people’s prepotent act identities in their idiosyncratic identity structures versus the context surrounding the action. (p. 10, italics added)

In addition to the dispositioning in this quote, the implicit requirement of contiguous causation can be seen in the privileged (“of course”) status of
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proximate relations and in the locating of causal relations within “identity structures” as distinct from the “context surrounding the action.” The firmness of the authors’ adherence to these and related assumptions is also revealed in the manner that the (inherently hypothetical) identity structures and representations are embedded as unquestionably real entities.

Ross and Nisbett (1991) asserted:

If people slight the importance of objective situational factors and subjective construals, to what do they attribute the behavior they observe? And on what do they base their predictions about future behavior? The answer we get both from research evidence and from everyday experience is that people are inveterate dispositionists. (p. 90)

Note that this quotation is itself a dispositionist statement. If the reader is wondering how it could be otherwise, that provides yet another illustration of the phenomenon and of its pervasiveness and subtlety. Similarly (and ironically), the researchers’ descriptions that are taken as identifying the fundamental attribution error are also instances of dispositioning. If it is indeed an error, they have participated in it while describing it, thus failing to recognize it as a socially/culturally-maintained pattern of interpretive talk.

One might anticipate that the best opportunity for authors to discern the presence of dispositioning and thus to avoid its pitfalls in their own interpretive prose would be a context in which dispositional and nondispositional interpretations are being contrasted. Such a context was presented by Choi, Nisbett, and Norenzayan (1999) in a summary and discussion of evidence for cultural differences regarding “lay dispositionism,” which they clearly link to the “correspondence bias” and the “fundamental attribution error.” Thus, they begin their article by explicitly asserting that preferential appeals to dispositional explanations of behavior are flawed interpretations. At various points they also characterize social psychologists’ interpretations as being relatively free of the dispositional bias, as when they cite Aronson, Wilson, and Akert’s (1994) suggestion that “. . .people in Western cultures appear to be like personality psychologists. . .whereas people in Eastern cultures seem to be more like social psychologists” (p. 57). Their literature review includes a summary of evidence that implies cultural practice or individuals’ learning histories as the sources of dispositioning, for they report that the degree to which dispositional rather than contextual accounts are given has been found to increase with the age of the person doing the attributing. They begin summing up their review by stating “a tentative conclusion is that East Asian folk psychology, in the domain of causal attribution, at least, may better correspond to the findings and theory of scientific psychology than does American folk psychology” (p. 59).

Given those observations and assertions, it is notable that throughout Choi et. al.’s essay dispositional terms are privileged within their own interpretations. Processes of behavior–environment interaction are not mentioned, let alone seriously entertained as possibly accounting for attributive practices. Thus, as documented by the numerous quotations that we have included here in an
Appendix, they account for the differing interpretive practices of Americans versus Eastern Hindus by appealing to differing beliefs (including beliefs about beliefs), to differing causal or dispositional theories held by Hindus versus Americans, to differing theories of mind, differing dispositions (sic), differing sensitivities to context, and differing cognitive operations. All of these are dispositional interpretive terms. That this occurred unwittingly is shown by the authors asking:

What might be the possible benefits of East Asian situationism other than simply making more accurate attributions? We suspect that their acute sensitivity to situational influence on behavior may enable East Asians to avoid, ironically, undesirable situational influences on their own behavior. . . .This suggests an interesting but paradoxical benefit of East Asian lay theory. If East Asians believe their mental process and behavior are strongly influenced by situational factors, they may be less vulnerable to situational influences. (p. 60)

Thus, the authors present a dispositional account of dispositions accounting for still other dispositions (we have added italics here to highlight their explicit acknowledgement of the superiority of situational accounts even while dispositioning continues pervasively in their own prose). In moving toward their concluding section, the authors explicitly ask how the cross-cultural pervasiveness of dispositional thinking is to be accounted for. Besides appealing to (dispositional) theories of mind that involve interactions of beliefs and motivational states, they suggest “the likelihood that dispositional thinking is a universal, species-specific mode of reasoning about social behavior” (p. 58). One cannot help wondering what an Indian Hindu would think about that suggestion. But, proceeding on, they say:

*Social behavior is perceived as the observable manifestation of underlying, enduring traits.* Thus, personality theories are derived from our belief that there is more to social behavior than just its appearance. This strongly suggests that lay dispositioning may be a form of psychological essentialism, a widely encountered mode of thinking that consists of attributing a hidden essence to a thing or a class of things, which makes the thing or the category what it is. (p. 58)

To be sure, there is more to most (not only social) behavior than just its appearance, especially if “its appearance” is taken as including only the immediately attendant events along with the form of the behavior. Nevertheless, one can accommodate this by recognizing that the nature of a social act may be obscured by its being part of a pattern extended in time and thus “hidden” because one can look right through the ongoing pattern, rather than because relevant events or conditions are hidden inside the organism. Recognizing the legitimacy of behavior patterns as extended in time opens the way to interpreting those patterns as practices maintained, as such, within a culture.

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5 Note that here the authors appear to be dispositioning their own behavior as well as “dispositional thinking.”
That this alternative should not be recognized in an article addressed to that very issue—an article that begins by affirming that it is an error to grant privileged status to dispositional interpretations—illuminates how subtly that practice (and, we argue, the related assumption of contiguous causation) permeates not just Western folk psychology but also formal psychological theory.

Is Dispositioning Truly an Error?

The fact that dispositioning is so ubiquitous as to permeate even the interpretive prose where its “error label” is accepted and discussed leads us to examine whether dispositioning should indeed be considered an error.

Adaptive Functions of Dispositioning in Ordinary Language

Irrespective of its relation to assumed contiguity in causation, there appear to be several ways in which, as an ordinary-language practice, dispositioning can be genuinely useful as well as convenient. Thus, as Heider (1958) suggested, attributive statements enable one to assess when other people’s behavior affects oneself, thus being more equipped to predict or influence that behavior. Learning how to do this, and teaching children to do it as well, is surely a practice vital to any human community. The effectiveness of such informal attributing often does not require that “causes” be identified in the scientific, explanatory sense. Indeed, theorists such as Kruglanski (1975), Buss (1978), Fincham and Jaspars (1980), and Hewstone (1989) have identified various ways in which ordinary-language attributions concern other kinds of relationships, some of which we shall explore here.

As we have already noted, integrative attributions can summarize extensive ongoing patterns of behavior, and in this way they have predictive functions. When you have no access to an individual’s extended history, what that person has done most of the times you have seen her or him is likely to be your best predictor of what the person will do in the current or a future setting. Integrative terms summarize these predictions very effectively while providing a very economical way of speaking. For example, if you occasionally work with a person who usually smiles and responds warmly to your greetings, thinking of him as friendly is adaptive. On the other hand, if you are working with a person who is also quite pleasant to interact with but who frequently distorts the truth, it is adaptive to think of him as a liar. One need not treat such terms as causal. The friendly smile is an instance or an aspect, not a cause, of the person’s friendliness; the false statement is an instance of a person’s pattern as liar, and it need not be viewed as a product of liarness.

A second function of dispositional attributions is in influencing or facilitating other people’s behavior when reinforcing or punishing their actions. The child who picks up her toys is told “You are such a good girl!” while one who bites another is scolded with “Bad boy!” On the job we see supervisors commending productivity with “You are a really hard worker,” and in schools we see teachers reinforcing
academic performance with “You are really bright.” This use of integrative statements as consequences for actions pervades our cultural practices; the verbal consequences are dispositional attributions in that they either explicitly or implicitly impute cause to an aspect of the behaving person. When they are functioning this way, their effectiveness in influencing the behavior of others could maintain their continued usage, even though one could praise the behavior rather than the person: “Good job! That was a really impressive effort.” As we shall see, the latter practice is even more effective.

Attributions placing cause within the person also figure prominently in attempts to control behavior at the societal level. These are traditionally organized around notions of responsibility, with dispositioning offered in justifications for punishment or retribution as well as for rewards implemented (whether effectively or not) as practices of social institutions. Thus, the label “criminal” is applied by the legal system and “sinner” by the church. Indeed, it appears that much of our legal system is justified by inferring causes as located within persons, a rationale that encounters difficulty as we come to recognize the extended sources of deviant behavior. Assignment of guilt or innocence in court, and decisions regarding the implications thereof, are challenged when complex extended relations are described in defense of the accused person (e.g., if he or she was abused as a child). Recognizing the validity of those extended relations clashes with the more traditional, dispositionalized assignments of responsibility, and as a society we have not resolved the contradiction. If jurists were to explicitly address the extended time relations, as such, they could systematically analyze the conflicting relations as simultaneously operative on different time scales, rather than arguing about them from the competing rationales of retribution and of rehabilitation.

Sometimes, while a dispositional attribution is ostensibly an assignment of cause, its function is to “turn off” informal “why-type questions” rather than to accurately describe the pertinent causal relations. These attributions may be concerned more with plausibility than with accuracy, so any reasonably plausible explanation that terminates the situation is functional, irrespective of its accuracy. Bem (1972) discussed this type of effect when accounting for the development of self-perception. This analysis also complements that of Gilbert and Malone (1995), who advance three reasons why dispositional attributions predominate in what they refer to as the “correspondence bias”: (1) Dispositional attributions are easy to make; (2) even when incorrect, they may result in few unfavorable and many favorable consequences; and (3) “they afford the observer a culturally acceptable way of gaining a sense of control over her or his environment” (p. 35).

Dispositioning may have even less to do with explanation when its function is mainly to influence the behavior of people other than the dispositioner or the dispositionee. For example, when one politician refers to another as “motivated only by a hunger for power,” assigning the pejoratively dispositional “hunger” as the opponent’s cause of running for office, the statement probably relates more to affecting voters’ decisions than to accurately accounting for the political opponent’s behavior. The putative explanatory character of the statement is actually misdirective, for the dispositioner’s agenda is something else entirely.
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Funder (1982) is unusual among attribution theorists for having identified the relevance of extended time relations, asserting that dispositional attributions can be understood as describing how a given action fits into a larger pattern of behavior over time. As such, dispositioning should not be considered an “error” since, to the extent that an instance of behavior is part of a larger pattern, it may be more effective to speak of it dispositionally (as part of a larger pattern of behavior) than situationally (also see Rachlin, 1994). This, of course, assumes that it is not feasible to directly address the extended pattern as such.

In sum, at the level of lay attributions, the conventions of attributional directionality often appear to work quite well. If they are at least partially successful in predicting future behavior, this (as well as other aspects of their adaptiveness) could maintain their practice. Furthermore, any given instance of dispositioning may actually relate to multiple factors and thus have both explanatory and non-explanatory functions. It follows that, for the lay person, scientific or logical correctness need not be the main factor determining the effectiveness of linguistic practices; in certain situations it might be one of the least operative factors.

Maladaptive Functions of Dispositioning

Maladaptive Vernacular Dispositioning

Dispositioning also functions in less adaptive ways. These include reacting to remote events or to extended and complex relations mainly by directing the focus away from those events and from their implications. Choi and colleagues (1999) identified an example of this in describing the cultural divergence that they studied:

One example of such a (situational vs. dispositional) divergence between Westerners and Easterners is in perceptions of dishonesty or inauthenticity. Westerners believe that an actor’s behavior reveals something about that actor’s personality, regardless of the presence of situational constraints on the actor’s behavior. Thus, any inconsistency in the actor’s behavior may be taken as evidence for that person’s dishonesty or inauthenticity, another dispositional inference! East Asians, in contrast, realize that people behave differently under different circumstances. They anticipate more variability in the actor’s behavior than Americans do and are more willing to attribute this variability to situational constraints. . . (p. 60)

Dispositioning also has the disadvantage of often characterizing problematic behavior in ways that obscure the best ways to change it. An example is provided by the common practice of characterizing a disruptive child’s behavior as arising from a need for attention. This ignores the fact that many people whom we admire—entertainers, political leaders, and outstanding athletes—can be similarly characterized. The child’s need is not the problem; rather, the problem is the child’s lack of appropriate skills of getting others to attend to them. If, on the other hand, one focuses upon other peoples’ attention as reinforcing the child’s behavior,
an effective strategy immediately becomes evident—that of arranging for the same consequences to select and maintain alternative, more desirable patterns of behavior.

Of course, reinforcement contingencies can be implemented badly, and it appears that one way this can happen is through the infiltration of dispositioning into reinforcement procedures. Mueller and Dweck (1998) examined the effects of praising children for their intelligence when they solved math problems, as compared to the effects of praising the children’s hard work. They found that praising a child’s intelligence rather than the child’s effort resulted in less effective performance when problems became more difficult. Furthermore, those praised for intelligence tended to worry more about failure and selected subsequent tasks that would be likely to validate their intelligence rather than tasks that entailed learning something new. In addition, describing reinforcement as operative upon the person (or upon the person’s dispositional characteristics) rather than upon the person’s behavior obscures the specific relationships whereby the principle is effective.

Dispositioning can function as obfuscation for purposes of marketing that exploits peoples’ ready acceptance of vacuous explanations. For example, the cover material of a brochure advertising the Harvard Mental Health Letter, recently distributed in repeated mailings over the span of at least two years, features a large sketch of the human brain, accompanied by the tantalizing prose:

What’s going on in the brain of . . . ?

The patient who hears voices issuing insults, threats, or commands. . . or who suddenly breaks out in senseless laughter, weeping or rage. . . or who engages in bizarre private rituals, or performs meaningless repetitive motions? (See inside)

The text within the brochure alludes to a few classes of drugs, and offers one vague reference to a study relating schizophrenia to brain structure, but provides literally no substantive information concerning specific aspects of brain functioning with respect to any disorder, whether behaviorally or psychiatrically construed. Whether the publication itself contains information of that kind is a separate question. The relevant point is that the marketers (and presumably their target readership, given that the brochure was sent out repeatedly and thus must have proved effective) seem not to have noticed the complete disconnect between the promised brain-based (thus dispositional) explanation and what was actually offered in the accompanying prose.

Dispositioning can facilitate “blaming the victims,” obscuring crucial events that are beyond their control while contributing substantially to their problems. Thus, Native Americans were often characterized as “lazy” after the U. S. government destroyed or prevented access to the bases for their long-standing industrious and adaptive cultural practices that had produced food, shelter, and

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6 Again, we have no problem with explanations/interpretations that are based upon sound physiological evidence; it is gratuitous appeals to physiology that we identify as dispositioning.
clothing. When people drink alcohol or gamble to the point of debilitation or poverty, the problem is characterized as their lack of will power. This deflects attention away from corporate promotions of alcoholic beverages and from public policy that promotes convenient access to lotteries and casinos—policies based upon the well-established fact that significant numbers of people will lose their money if given such access. And while we have noted as an advantage that informally labeling someone a liar can enable us to avoid being trapped by their untrue statements, the dispositional approach does not enable teachers or parents to teach their students or children to tell the truth.

Time relations often are problematic in themselves when they are not characterized as such. It is well recognized that people often act as if remote events were causally unrelated to their present state of affairs, and the blame for this is typically assigned to peoples’ personal defects rather than to external conflicting short-term consequences. For example, corporate executives, as a group, are characterized dispositionally as “shortsighted” when withdrawing resources from research and development to produce “lean and mean” workforces that enhance their companies’ immediate balance sheets. The obscured surrounding context is one in which executive performance is evaluated in terms of stock prices, pragmatically day-by-day and formally through quarterly comparisons, in a market where the span of a single year is counted as “long-term” for the taxing of capital gains. An effective remedy would build longer-term relationships into tax law affecting both investors’ income and corporate balance sheets, rather than focusing upon the dispositional characteristics of corporate leaders.

At the level of individuals, a person who continually eats between meals while trying to lose weight is said to lack will power, and the unemployed man or woman trapped in the inner city is often described as lazy or short-sighted. Again, characterizing the problem and its solutions as an aspect of the person obscures the long-term problematic relations that must change if the problem is to be solved.

Dispositioning as Maladaptive in Formal Theory. As we noted earlier, there are potentially useful functions of ordinary-language dispositioning. These included functions that are unrelated to causal explanation, such as interacting informally with peers or even obfuscating the influences on behavior when it benefits the speaker to do so. To the extent that they are effective practices, it is questionable whether they should be called “errors.” On the other hand, to the extent that formal theory and scientific practice is supposed to identify the events and processes involved in the behavior of concern—and especially to the extent that it is concerned with identifying causal relations—the granting of privileged explanatory status to dispositional terms does seem to be an error. It can be an especially costly error when formal theory directs us away from effective principles and techniques that can improve the quality of people’s lives and/or the lives of those around them.

Within social psychology, one might expect theorists’ focus to be upon processes of interaction within and between groups of people. Instead, perusal of most any textbook of social psychology reveals a focus upon the individual’s internal processes typically characterized as “social cognition”—the individual’s
comparison of self with others, the individual’s conformity to cultural attitudes,
and the individual’s attitudes and other inferred internal states or processes—
“cognitive dissonance” and the like. To the extent that these types of conceptions
dominate a theory, that theory is at risk of participating in the fundamental
attribution error in domains where it is indeed an error.

We have provided examples of dispositioning within attribution theory itself.
Jones and Nisbett (1971) appealed to “biases” and “powerful cognitive forces” to
account for the differences between an actor’s and an observer’s accounts of the
same action even though a given person is sometimes actor and sometimes
observer. A person does not sometimes contain one bias and sometimes the other.
As summarized earlier in this essay, it is through processes of socialization that we
each are taught to explain actions differently in the two situations. It is this and the
context of our behavior, rather than hidden cognitive forces, that determines in a
particular instance whether we are actor or observer. Appealing to “biases” or to
“forces” obscures this origin of our behaving differently in those two situations.

Jones and Nisbett’s account of the actor/observer difference also gives causal
status to the “actor’s need to maintain self-esteem.” Their use of the term need
appears to be similar to the vernacular usage of the same word; it is an informal
construct at best, for no explication of psychological process is supplied that could
translate the construct into action. We also noted Deci’s (1975) appeal to a
person’s “own intrinsic needs” as accounting for the person’s attributions. While
the term “intrinsic” may seem intuitively to add something to the explanation, it
may better be recognized as a veiled admission that one does not know where
those needs came from. Miller and Porter’s (1980) appeal to the attributer’s “need
for sense of control” is only slightly more specific as to origins. More importantly,
just as we have described regarding vernacular usage, an appeal to a person’s
needs in explaining their behavior obscures the fact that even if we accept the
construct of needs, problems usually arise from the ways a person has learned to
meet those needs, not from the needs themselves.

We have differentiated two types of teleological dispositioning. In one, the
behavior of concern results from the prior consequences of previous behavior
without verbal involvement; in the second type the origins of the behavior involve
explicit verbal statements. Both types of teleological attributing can be problematic
in several ways. First, the origins of the teleological terms that are given causal
status usually are not acknowledged. Second, also unspecified is precisely how
such entities can produce or even affect behavior (the classic mind–body problem).
Interpretive accounts that do attempt to address this in detail are stated through
interrelations of desires, beliefs, and intentions (e.g., see Horgan & Woodward,
1985). These attempts often boil down to a veiled recognition that in a similar
situation in the past a specific kind of behavior had produced a particular kind of
consequence, and that this supports reoccurrence of the behavior. In these cases the
teleological terms can be misdirective. Third, as Braithwaite (1959) noted some

7 This somewhat ironic fact has also been noted occasionally by social psychologists
themselves, e.g., Gergen (1999, p. 125).
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time ago, in teleological (i.e., goal-directed or goal-intended) explanations “the idea of ‘final cause’ functions as ‘efficient cause’” (p. 325). Philosophically, then, this type of teleological dispositioning is what Ryle (1949) identified as a “category error” in that patterns of explanatory talk take the form of efficient-causal relations (cause–effect, agent–action, etc.), even when those patterns concern complex “systems relationships” or extended final-cause relations. As a result, issues of efficient causation intrude inappropriately into discussions of these other relations. And fourth, while our second type of teleological dispositioning acknowledges a legitimate role of teleological statements, when people explicitly react to such statements as predictions, many teleological statements are introduced only after the fact as justifications of actions that have already occurred. The actions of concern may not have entailed the verbal reasoning that such justifications imply.

Earlier we identified as dispositioning appeals to brain function in the marketing of a medical health letter and an intervention for children who encounter difficulty in learning to read. One might argue that, while gratuitous, the marketing makes worthwhile techniques available to the public. DeGrandpre (1999) has documented ways in which, to the contrary, this is a far-from-harmless practice. He reviewed the press coverage of a scientific report that boys diagnosed with attention deficit hyperactivity disorder (ADHD) showed a difference in brain function from boys not so diagnosed. Widely disseminated reports indicated that a “brain signature” for ADHD had been identified via criteria from magnetic resonance imaging. Newsweek, for example, ran the headline: “Brain Scans Give New Hope for Diagnosing ADHD.” However, in the study that presumably justified those reports, two of the ten boys who were diagnosed with ADHD by behavioral criteria did not fit the MRI criteria, while three of the nine boys not diagnosed with ADHD did fit the MRI criteria. DeGrandpre points out that on the basis of such huckstering “Society could be misled to conclude that thousands of dollars should be spent on each ADHD child for a complex brain scan” (p. 15) whereas direct, low-tech, but systematic observations of the child’s behavior and the situations in which it occurred would provide more dependable and useful results.

Addressing the issue more broadly and in greater detail, Uttal (2001) has reviewed the methods and assumptions involved in contemporary efforts to localize brain functions, concluding that despite the high priority given to such work by prestigious scientific journals, it is seriously at risk of fundamental flaws. On one hand, there are several tenuous steps of logic in progressing through derivations of MRI and CT scan measures to the inference of interpretable brain activity. Any of several arcane technical problems of signal averaging, curve smoothing, and the like can result in misinterpreted data. More serious, in Uttal’s view, is the fact that the presumably identifiable psychological functions remain ill-defined, with no detailed agreement between various taxonomies that have been offered. New components of presumed mental process are added on an ad-hoc basis, identifiable more with the techniques of different laboratories than with any overall coherent organization. While he does not use the term, Uttal identifies the
uncritical acceptance of such loose scientific practice with that of dispositioning: “The tendency to concretize and reify the ephemeral is endemic in psychology . . .the tendency to treat as real that which is, at best ad hoc or invented, is pervasive” (p. 91).

Finally, and more generally, whether it occurs in vernacular attributing or in formal theory, the practice of over-attributing cause to proximal events occludes the contributions of distal or extended relations, making it more difficult to act effectively with respect to these more extended relations. Integrative dispositioning masks the origins of behavior patterns, thus impeding their systematic production or prevention, for most dispositional entities are not acknowledged as mere labels for larger patterns of behavior. Instead, those labels are treated as contiguous causal entities; thus, the label obscures the extended set of relations that occasion it. As we have shown in some detail, Choi et. al. (1999) also asserted the scientific superiority of non-dispositional accounts despite the fact that their own interpretations pervasively gave privileged status to dispositional phrasing.

Attempts to Accommodate Extended Time within Psychological Interpretations

Remote Causation

The account of the origins and maintenance of explanatory patterns that we outlined earlier in this essay is an extension of contemporary behavior analysis. It is an approach that originated in the work of B. F. Skinner and has continued to develop within a community of researcher-scholars and practitioners both within and outside of psychology. Interpreting both overt actions and covert activities as behavior–environment relations per se, behavior analysis runs counter to the conventions of dispositioning, which accounts, at least partly, for its residing largely outside the mainstream of academic psychology. Its direct emphasis upon behavior–environment interactions as constituting the very warp and weft of psychological process brings the issues of contiguity versus remote causation directly into focus. Nevertheless, while behavior analysts have addressed these issues directly, the result has not been consensus.

Skinner seems to have been ambivalent about the implications of his own conception regarding temporally dispersed causal relations. His first major theoretical contribution was to reinterpret the reflex as functional relation rather than stimulus–response connection (Skinner, 1931, 1935a, 1935b). His adopting of rate of occurrence as a fundamental dimension of behavior implied an acceptance of temporal extension while further distinguishing his approach from “S–R psychology.” His early years of experimentation with an emphasis upon consequences of behavior as distinct from eliciting stimuli, described in Skinner (1938), were accompanied by a gradual shift to a prose style that no longer implied stimulus–response connections (Hineline, 1990). Nevertheless, impressed by the importance of immediate reinforcement in shaping behavior, Skinner usually wrote as if contiguity were a feature intrinsic to the reinforcement principle. It was only
later that Baum (1973) showed how the empirical importance of immediate reinforcement is to be accounted for without implying contiguity as intrinsic to behavioral process.

Like Baum (e.g., 1973, 1997, 2002), we have chosen to emphasize the conceptual advantages of accepting psychological/behavioral processes as extended in time, and this shift of focus has also been advocated by other authors, and with respect to other topics. For example, Logue (1988) and Rachlin (1974, 1995) has conceptualized impulsivity as behavior attributable to local contingencies, contrasting it with self-control, which he conceptualizes as constituting larger patterns of behavior in relation to long-range consequences. Platt (1973) identified multi-scaled relationships as contributing to a variety of social dilemmas. Baum (1997) has discussed the relationships between extended time relations and the Aristotelian distinctions between efficient and final cause as addressed in behavior–analytic terms. Herrnstein and Hineline (1966), Herrnstein (1969), and Hineline (1976, 1981, 1984) have advocated accounting for avoidance directly in terms of relationships between behavior and dispersed environmental events. Glenn (1988, 1991), Glenn and Field (1994), and Hull, Langman, and Glenn (2001) have addressed the issue in relating concepts from behavior analysis to selectionist concepts in biology, anthropology, and immunology. Morris, Higgins, and Bickel (1982) expressed the issue especially succinctly:

Just as the power of a microscope must be adjusted as a function of the phenomenon under study, so, too does the scale of behavior analysis need to be adjusted to the functional unit of behavior–environment interaction. To be specific, when order is not apparent at a molar level, a more molecular analysis may be necessary. . . .Conversely, if one fails to find an immediate stimulus that controls a response, perhaps the response is only an element of a larger functional unit which is controlled by currently operating variables not immediately attendant to that element. (pp. 119-120)

On the other hand, “Molar vs. molecular analyses” have been a long-standing issue in behavior–analytic accounts of choice between concurrently available alternatives, as exemplified by the contrasting interpretive principles of “matching” and “momentary maximizing” (e.g., Buckner, Green, & Myerson, 1993; Fetterman & Stubbs, 1982; Hale & Shimp, 1975; Herrnstein, 1970; Nevin & Baum, 1980; Shimp, 1975; Williams, 1991). The issues sometimes have been addressed in terms of “size of the behavioral unit” (e.g., Baum, 1995; Galbicka & Branch, 1981; Thompson & Zeiler, 1986), and with recognition that analogous issues have been addressed with respect to selectionist accounts in biological theory (Smith, 1986). Addressing individual units, Donahoe, Palmer, and Burgos (1997) explicitly give privileged explanatory status to molecular units in their selectionist account of behavior—arguing, in effect, for a view of causation that emphasizes contiguity. Recognizing the intractability of the arguments in this literature, Baum (2002) has characterized the acceptance of molar and multi-scaled analysis as requiring a paradigm shift, focusing upon the organism’s time allocation among activities
rather than upon delineating units of behavior. Thus, behavior analysts struggle with the issue just as physicists did long ago.

A few theorists in other contemporary traditions have also grappled with extended time relations within psychological processes. Watkins (1990), in discussing studies of memory within the cognitivist tradition, apparently views the relation between time relations and dispositioning as we do, for he questions the need for inferred, underlying entities or processes that are commonly posited as filling gaps in time. The summary of his essay begins by stating: “Memory research is going nowhere; the problem is mediationism” (p. 328). Then, appealing to Newton’s interpretation of gravitational attraction, Watkins asserts:

My point here is that just as physicists can study in a meaningful way the effect that a body at one place has on another body at a different place without invoking a physical substrate to bridge their spatial separation, so psychologists can study in just as meaningful a way the effect that an experience at one point in time can have on experience or behavior at another point in time without invoking a physical substrate to bridge their temporal separation. (p. 330-331).

Similarly, the interpretive tradition known as “direct perception” or “ecological perception theory,” which originated in the work of J. J. Gibson, also rejects explanatory appeals to mediational entities (Gibson, 1950, 1979). The conceptual similarities between behavior-analytic and direct perception theory have been reviewed in detail by Costall (1984) and by Guerin (1990).

An article by Mischel, Shoda, and Mendoza-Denton (2002) illustrates a struggle to accommodate temporally dispersed behavior patterns within the domain of personality theory, raising issues closely related to the practices of dispositioning. Citing Bem & Allen (1974), these authors identify a “paradigm crisis” in personality theory of the 1970s:

The crux of this crisis was captured in the so-called personality paradox: How can our intuitions about the stability of personality be reconciled with the evidence for its variability across situations? (pp. 50-51)

Note that acceptance of those “intuitions” as valid is an apparent adherence to dispositioning in the face of acknowledged conflicting data. The authors describe their research program as attempting to resolve the paradox by developing “situation–behavior profiles” for individual people. In the example given, children were observed in vivo for several weeks using a taxonomy that included five types of situations. For each of these, each child’s frequencies of behavior were expressed in proportion to group means so that the resulting profiles would reflect behavior above and beyond what would be normally expected in the situation indicated—and thus be attributable to the individual’s distinctive personal qualities. A given child, then, was found to behave in a consistent fashion within specified types of situation; summaries of these data, represented as patterns of deviation from the group norms, were taken as “situation–behavior profiles.”
To the extent that this provides a balanced emphasis upon both the individual and upon his/her environmental circumstances, this is unproblematic integrative dispositioning. Anchoring the individual profiles to group norms, however, appears to be offered as support for a dispositional interpretive bias with a rationale that constitutes conformity to the vernacular practice that was pointed out by Kelley (1967)—the practice of invoking dispositional terms when a person’s behavior departs from social consensus. This obscures the likelihood that an individual’s acting atypically in a given context could be due to the person’s unique past interaction with environmental events rather than to intrinsically personal characteristics. In interpreting their results, Mischel and colleagues adopt a strongly dispositional stance by appealing to underlying mediating processes as accounting for the observed behavior patterns. Specifically, they interpret the situation–behavior profiles as “expression of the enduring but dynamic personality system itself and its stable underlying organization” (p. 53) expressed in terms of “cognitive–affective personality system theory” (CAPS theory; Mischel & Schoda, 1995). That theory is couched in terms of several categories of mental representations that comprise an activation network which, in turn, is to be understood in terms of internal processing dynamics. Watkins’s critique of mediational theory is relevant here, for the “cognitive–effective units” of CAPS theory are sure to be at least as difficult to evaluate as the (relatively less complex) constructs of memory theory, which Watkins found to be, in principle, impervious to adequate empirical evaluation.

Still, Mischel and colleagues’ approach can be discerned as an attempt to address within a single system people’s extended behavior patterns for which both environment-based and organism-based locutions are invoked, for they propose applying the theory in two ways. One of these is a “top-down approach” in which the researcher

. . .begins with a theory of the internal processing dynamics that may characterize a type, and then hypothesizes the distinctive if . . . then . . . profiles for that type, as well as the psychological triggers that define the profile. (Downey & Feldman, 1996; Morf & Rodewalt, 2001)

The other is a “bottom-up approach” that employs statistical techniques “to extract person classes, behavior classes, and situation classes from people’s responses to standardized inventories” (Vansteelandt & Van Mechelen, 1998, p. 53). There seems to be a privileging of the dispositional, however, for it is only through inferred processes within the organism that the authors propose to generalize from particular instances to general principles. In addition, they identify their primary agenda as that of classifying subtypes of individuals as a basis for predicting what people will do.

In contrast, a non-dispositional approach, whose interpretive terms concern generically specified behavior–environment relations rather than attempting to identify generic personality profiles, is much more direct. Using single-case experimental designs, functional analyses can be accomplished within a few hours at most, identifying the classes of environmental consequences that are relevant to
an individual’s behavior of concern, leading directly to remediation where appropriate. This has become standard practice within applied behavior analysis (e.g., see Iwata, Vollmer, & Zarcone, 1990; Repp & Horner, 1999).

**Multi-Scaled Process**

In exchanges with behavior analysts who adhere to contiguous causation (e.g., Dinsmoor, 2001; Hineline, 2001) it often is evident that our rejection of contiguity as necessary for causation is misunderstood as advocating privileged status for interpretation in terms of distal or extended (“molar”) relations. To the contrary, we recognize that some relations for which causal terms are appropriately invoked do involve contiguous events. But we also assert the need to understand processes as simultaneously occurring on multiple time scales. That is, the theorist must be sensitive to the possibility of ongoing orderly relations between events that are occurring simultaneously on widely disparate scales. These overlapping scales of process can involve both spatial and temporal dimensions, with some processes embedded within others. Distinct phenomena may emerge at each scale, analogous to the multiple spatial scales that one might study with various magnifications of a microscope. In part, the problem is to achieve an intuitive understanding of behavioral/psychological processes in this way. In an attempt to facilitate this, we return briefly to phenomena in physical science that are both familiar and analogous—the phenomena of resonance, which we noted earlier.

The “natural frequency,” or resonant frequency, of oscillation in an object or system is a property of the entity-as-a-whole. One can readily discover that the contents of a soup bowl will slop over the edges if one carries it while walking at a particular rate; either speeding up or slowing down reduces the problem (most of us slow down; skilled servers in restaurants often speed up). As children we learned to produce great movements of water in the bathtub by shifting back and forth at just the right frequency—a frequency somewhat slower than that which spills the liquid from the soup bowl. The same phenomenon occurs in the Bay of Fundy, producing forty-foot tides that reverse the flow in tributary rivers, as a result of the resonant frequency of the bay (which is functionally an enclosed basin due to shallows near its mouth) that happens to coincide with the periodic gravitational attraction from the moon in combination with the earth’s rotation. The key point is this: *No amount of careful examination of the molecules of liquid within each of these will inform us about the resonant frequency. Resonance is a property that “emerges” at its own scale.* These multiple scales may be most obvious when considered spatially, but the oscillations and their multi-scaled properties are also, perhaps more fundamentally, multi-scaled processes in time.

Still within the domain of physical mechanics, there sometimes will be limited interaction between various scales of process, each of which needs to be understood on its own scale. For example, when designing a bridge to span a river, an engineer will be concerned with the rigidity, shearing and tension strengths of beams, plates, bolts, rivets, and cables. The molecular chemical properties of these components would also be useful to know, thus predicting their susceptibility to
corrosion in various environments. Intermediate scales of analysis will be important in analyzing the various truss structures that might be employed. Properties such as the rigidity of triangular configurations will be emergent at the scales of those triangles and cannot be understood by closer examination of the constituent parts. Then, the bridge may have a resonant frequency that is understandable only through contemplation of the structure as a whole.

On the other hand, whether that resonant frequency will present a problem can be assessed by examining still other large-scale relationships such as airfoil effects under high winds, intermediate analyses that identify particular stress points resulting from the oscillation, smaller-scale analyses concerning properties such as the shearing strengths of rivets at those stress points, and analyses of the rivet materials’ susceptibility to corrosion to discern whether those shearing strengths will be degraded with time. The relationships identified at each scale have their own conceptual validity and domains of relevance. Focusing upon one scale does not deny the validity or importance of the others.

One can find occasional instances of this kind of conception elsewhere within psychological science. For example, Warren and Shaw (1985) explicitly argue for analysis of dynamic multi-scaled psychological processes in dealing mainly with visual perception in terms of the Gibsonian concept of *nesting*:

> There can be no fixed unit of change, or fixed spatio-temporal scale, over which all events are defined. (p. 8)

> . . .events of different periods may overlap within the same region of space-time, that is, natural events come nested, like the scenes and acts of a play. . . we must recognize that events of importance for perceivers are defined at ecologically appropriate scales, or levels of nesting. The relevant level of nesting is determined by the significance of events at that level for the needs and activities of the perceiving animal. . . . The nesting of simpler events may give rise to complex events not necessarily reducible to their simpler elements—although in some trivial cases they may be. (p. 9)

Funder (1982) provides an intuitively compelling example that relates closely to psychology, but his example is more purely spatial in character:

> By analogy, if a person looks closely at an oil painting, all he or she sees are dabs of paint. Only upon moving back a couple of steps will the depicted objects become visible. But a close examination is useful if the person wants to know how the artist mixed the paints, just as stepping back is useful if the person is interested in the subject matter of the painting. In attribution, people are well advised to look closely at the situational correlates of behavior if they wish to know in what circumstances to expect a given action, or even how to change the situation so as to change the behavior. If, instead, they want to know how the particular actor differs from other individuals, or how that actor is likely to behave over time and across situations, they should probably move back a bit and gather clues as to the general dispositions the person manifests. They should bear well in mind, however, that neither sort of attribution is immune to error, just as neither sort of attribution is necessarily erroneous. (p. 218)
This quotation also illustrates the fact that, as we noted earlier, Funder (1982) also recognized temporal dispersion as involved in attribution—mainly of the kind that we have called integrative dispositioning, which we take as implying temporal extension within psychological process. However, Funder seems to adhere to the assumption of contiguous causation in situational attributions, and perhaps in mediational and teleological dispositioning as well.

Glenn and Field (1994) provide a specific example of a multi-scaled process comparing selectionist concepts from biology and anthropology with fundamental behavior–analytic concepts. Their analysis makes explicit the temporal extended nature of selectionist process as applied to behavior when they distinguish between the existence of operant units and the occurrence of operant instances. Operant units

...are individuals in the same sense that Ghiselin (1974) argued that species are individuals. Although not things (any more than species are), specific operant relations exist in the repertoires of specific organisms. They are as much a part of the world of natural, historical phenomena as are organisms and instances of action—the difference is the difference in the time spans of their existence...An individual species is composed of a population of organisms that can be traced historically to a common origin. A particular species is a ‘natural population’ and is to be distinguished from a population that merely has common characteristics (e.g. chairs or organisms with wings). Similarly, an operant unit is a ‘natural population’ and is to be distinguished from a population of responses that have similar structures or functions, within or across organisms. The common origin of an operant population is in the history of reinforcement accounting for characteristics of the population. (p. 242)

**Attempts to Reconfigure the Descriptions Relating Behavior, Organism, and Environment**

As Gergen (1985) suggests, “many classic problems both in psychology and philosophy appear to be products of linguistic entanglement; with clarity concerning the nature and functions of the language the problems may often be decomposed” (p. 267). Our descriptions here of dispositioning, its functions, and the situations in which it occurs are an attempt to achieve part of that decomposition. We propose that scientists’ joint participation in the vernacular culture—in the ongoing discourse of their personal lives as well as in their socialization before becoming scientists—results in verbal patterns “crossing over” from the vernacular into their scientific practice. Even the most arcane of technical discussions is framed within the syntax of one’s native language, and except in pure quantification where algebraic conventions prevail, what “sounds right” is what is deemed reasonable, logical, correct. The vernacular patterns whereby dispositioning is thus spliced into psychological interpretation are subtle ones—for
example, dispositional patterns arise in the occasioning of transitive-verb statements as well as of more explicit causal assertions, yielding the mismatch of bipolar locutions with tripolar phenomena that we have noted earlier. Least tangible are the relationships that involve temporal dispersion that, without being noticed as such, often lead to the privileging of dispositional interpretations.

It would be desirable to understand these problems of interpretive language in a more principled way, for this could defuse destructive disagreements between alternative viewpoints and their traditions, and perhaps even move us beyond those disagreements to an improved, more coherent understanding of what we all are about. As presented in this essay, our own effort in this has been to offer an account of how it is that people (including ourselves) come to speak as they do when interpreting behavior in particular types of circumstances. This account focuses directly upon the explanatory behavior, its circumstances, and its consequences rather than upon inferred dispositions, mechanisms, or processes within the interpreter. There are several additional pockets of contemporary scholarship where explanations of behavior have been addressed in ways that contribute to this effort.

One among these is the concept of replicating entities introduced by Dawkins (1976) with the term “meme.” As characterized by Dawkins and subsequently elaborated by Blackmore (1999), memes are units of cultural transmission that can be as diverse as tunes, catch-phrases, and ideas. As Blackmore notes, “mutually assisting memes will gang together in groups just as genes do” (p. 6), and thus we find intellectual gang-fights between alternative interpretive patterns that we call theoretical viewpoints. Given the bipolar constraint of explanatory language, one cannot simultaneously state dispositional and situational interpretations within the same sentence—indeed, they do not readily cohabit the same paragraph or essay. Thus, a characterization of interpretive language in terms of memes and meme-complexes may not enable us to eliminate the struggles between incompatible patterns, but they do enable us to understand the struggle in somewhat more neutral terms.

Still, the bipolar/tripolar conundrum remains in evidence. Dawkins asserts that memes are stored in human brains or other concrete things like books or inventions (e.g., Dawkins, 1982, p. 109), with the activities that identify them being their phenotypic products. This constitutes a dispositional interpretive bias, for the replicating entities are “pure activity” and nothing is gained by appealing to unspecified configurations of stuff within the organism. A more dynamic characterization would be better matched to the phenomena of concern while accommodating the fact that many of the replicating cultural practices are coordinated activities of two or more organisms. The patterns are emergent at an expanded scale that cannot be coherently localized within a single brain. Still, these patterns of activity are just as real as neural tissue is, even though they exist within the ongoing dance of social life rather than within people’s heads.

This alternative characterization would also be consistent with an evolving worldview that Resnick (1997) describes as “decentralization”:
. . .rather than viewing the world in terms of one individual object acting on another in a neat causal chain, researchers are viewing the world in terms of decentralized interactions and feedback loops. . . (p. 13)

The growing interest in decentralization means much more than new types of organizations. It means new ways of viewing the world, new ways of thinking, and new ways of knowing. (p. 21)

Those new ways of thinking are likely to entail breaking out of the bipolar constraint that permeates interpretive language as well as accommodating extended time relations more directly.

Another alternative characterization of the problem of conflicting patterns in interpretive language is commonly identified with the work of Benjamin Lee Whorf, whose collected essays can be found in Carroll (1956). The shorthand version of Whorf’s position, as commonly understood, is: “Language determines thought,” as illustrated by “Eskimos have many words for snow, while we have only one.” This does not do justice to the “Whorfian hypothesis,” however. Whorf was especially concerned with how distinctions get made, not merely which distinctions get made. While we do not agree that all thinking is verbally based, Whorf’s sketches of intractable differences between standard Indo-European and Native American languages seem relevant to intractable differences that we encounter between alternative psychological viewpoints (Hackenberg, 1988; Hineline, 1980).

A Whorfian perspective also makes clear that the ways we talk and write are constrained not only by what can be said in a given language, but also by what is easier or more difficult to say. For example, it easy to characterize behavioral positions as asserting that people do not have minds—but the behavior–analytic position requires very different phrasing. First, when one speaks of minds one is not speaking of thing-like entities that one can be said to posses, even in the sense of owning an arm or a leg. “Mind” pertains to activity of the owner as a whole: problem-solving, discriminating, arguing, and the like. For a behavior analyst these are ways or aspects of behaving—repertoires that need to be accounted for, rather than bases for explanation—and they are to be explored among a person’s interactions with the world rather than among the person’s internal structures. Thus, the behaviorist objection, as we understand it, is to the practice of treating “mind” as a possession and as a cause of action. This is not mere hair-splitting, for to misunderstand this issue is to misunderstand additional implications of the behavior–analytic position, such as the nature of its challenge to the Cartesian conception of person as isolated self and the implications of environment-based accounts of behavior for concepts of responsibility (Hineline, 1992, 2004; Ruiz, 1995).

Interestingly, when discussing the Coeur d’Arlene language, Whorf considered, rather pessimistically, a solution to the kind of problem that we are grappling with, that of adequately addressing triadic phenomena:
If, given a more sophisticated culture, their thinkers erected these now unconscious discriminations into a theory of triadic causality, fitted to scientific observations, they might thereby produce a valuable intellectual tool for science. WE could imitate artificially such a theory, perhaps, but we could NOT apply it, for WE are not habituated to making such distinctions with effortless ease in daily life. Concepts have a basis in daily talk before scientific workers will attempt to use them in the laboratory. (Carroll, 1956, p. 266)

Whorf’s use of capitalization in this passage strongly indicates that he discerned the interpretive difficulties that we are attempting to address with the present essay.

A reanalysis of Whorf’s position by Schultz (1990) suggests an especially intriguing applicability to the interplay between situational versus dispositional interpretative patterns. In a close examination of Whorf’s techniques of exposition, Schultz exploits the concept of “double-voiced discourse” as derived from the work of the Russian linguist Mikhail Bakhtin. Schultz’s key thesis builds upon Bakhtin’s concept of heteroglossia, the existence of multiple and sometimes conflicting language patterns within a culture:

. . .every national language is teeming with sublanguages, each with its own conventions. Wherever significant social differentiation occurs in life, there too will begin to form a new sublanguage. In any society of any complexity, therefore, numerous such sublanguages always coexist, challenging one another . . . (pp. 33-34)

Schultz’s agenda is to illustrate in detail how Whorf used double-voiced discourse to induce his readers to discern the constraints in their own language in grappling with examples from Hopi and Shawnee.

According to Bakhtin, double-voiced discourse as an artistic technique depends on the writer’s skill at stylization. . .a mixture of two social languages within the limits of a single utterance, an encounter within the arena of an utterance, between two different linguistic consciousnesses, separated from one another by an epoch, by social differentiation or by some other factor. (p. 55)

Our own agenda concerns a heteroglossia, or more specifically a bi-glossia, that seems to have evolved in a compartmentalized way, to the extent that members of the English-speaking community effortlessly shift back and forth between dispositional and situational locutions without even noticing that they have done so. Whether or not we have achieved our task through Bakhtin’s “stylization,” the task is similar to that attempted by Whorf and by Schultz—to enable readers to discriminate these shifts between interpretive patterns, to recognize the conflict between the conventions within which one or the other of these patterns occurs, and to recognize conventions that would better accommodate the psychological/behavioral phenomena that we study.

The tension between situational and dispositional interpretations in psychology has a parallel in developmental biology, where proponents of the two
interpretive patterns have a long history of heated arguments couched in terms of “nature versus nurture” or “heredity versus environment.” To their credit, many developmental biologists have, for several decades, seen the need to neutralize the adversarial exchanges between the two viewpoints. Some have attempted to accomplish this by apportioning the relative genetic versus environmental influences through analyses of variance, which assumes linear additively among the variables contributing to development. Others have found the additively assumption to be untenable, undertaking instead to accomplish detailed analyses and descriptions of interactions between characteristics of the organism and features of its environmental niche (e.g., Gottlieb, 1976; Kuo, 1932; Lehrman, 1970). Developmental biologists have not entirely mastered the conundrum of bipolar interpretive language addressed to tripolar phenomena, however.

For example, Richard Lewontin has been among the forefront of developmental biologists recognizing that construing the nature/nurture issue in terms of “interaction” continues and—even strengthens—a contrast between the two classes of terms, leaving them inherently in opposition. Nearly two decades ago he asserted that the organism and its environment are “interpenetrable” in that each is implicitly defined in relation to the other (Lewontin, Rose, & Kamin, 1984). Explicitly placing this position in historical context, Lewontin currently asserts that, while separate internally attributive and externally attributive discourses were important in the origins of biological science, the time has come for us to transcend those limitations:

. . . genes, organisms, and environments are in reciprocal interaction with each other in such a way that each is both cause and effect in a quite complex, although perfectly analyzable, way. The known facts of development and of natural history make it patently clear that genes do not determine individuals nor do environments determine species. (Lewontin, 2001, p. 61)

Ironically, in the same essay Lewontin goes on to assert a heavily dispositionized stance:

The final step in the integration of developmental biology into evolution is to incorporate the organism as itself of a cause of its own development, as a mediating mechanism by which external and internal factors influence its future.

Organisms do not adapt to their environments; they construct them out of the bits and pieces of the external world. . . (pp. 63-64)

This may be an effective rhetorical strategy, conforming as it does, to cultural traditions that emphasize the autonomy of the individual. Nevertheless, it unravels the author’s own subtlety woven conception of interpenetrability between organism and environment.

Perhaps more than any other scholar, Oyama (e.g., 1985, 2001) has struggled to achieve a balanced characterization of the relationship between the dispositional and the situational—that is, between organism-based and environment-based features and events. Noting that Oyama (1985) includes a role of behavior in
development that enhances her account’s affinity to psychology, Midgley and Morris (1992) summarize some of the ways in which she achieves this. She replaces the organism-based “nature” and environment-based “nurture” with a broadened conception of inheritance that includes interactants of both kinds; one inherits not only genes and an intrauterine environment but also siblings and social practices. Oyama’s primary focus, then, is on a developmental system, an entity comprised of multi-scaled nested sets of relationships whose description encompasses both environment-based and organism-based terms. Her distinction between what is inherited and what is constructed cuts across the traditional categorizations of nature and nurture. In a manner complementary to our present struggle with the constraints and biased patterns embedded in interpretive language per se, Oyama explicitly struggles with constraining assumptions that usually are only implicit in the discourse of developmental biology.

Thus, in contrast with Lewontin’s (2001) essay, Oyama (2001) asserts caution with respect to the awarding of privileged interpretive status to particular types of terms. Most specifically, she objects to:

. . .the attribution of special directive, formative, or informative power to genes—in short the treating of some causes as more equal than others . . . To reject a special executive role for the DNA is not to deny that all sorts of distinctions can be made among factors and among the ways they impinge on development . . . It is to say that many of the classical ways of describing biological processes are ill conceived, including many of those that claimed to be paying appropriate attention to a variety of factors. (p. 178)

Oyama also notes, with respect to nature/nurture:

There is a recurrent tendency to associate predictability and constancy mainly with insides, and (certain kinds of) change and variation with outsides. . . . Development has conventionally been explained by internalist models and evolution. . . . But developmental constancy is no less a product of (systematic) interaction than is variation. In like manner, lability, unpredictability and variability are no less (interactively) systemic than is constancy. (p. 188)

Oyama (1985) discusses this at much greater length, including a recognition of the “inside/outside” pattern having been identified, but not especially well-handled, by attribution theory. We, of course, have identified the pattern within attribution theory itself as well as within the vernacular phenomena addressed by attribution theory.

Multiple levels or scales of process are explicitly incorporated into Oyama’s conception of the developmental system, but she notes that recognizing this does not automatically solve the attendant problems:

We have, for whatever reasons, a peculiar relationship between the behavioral and the biological sciences, a relationship in which some portions of the ‘higher levels’ are considered really the province of the lower ones. Some behavior, feelings, or institutions are genetically determined, and therefore biological,
while the rest are the proper material for the behavioral scientists. It is as though a chemist were to say that some compounds were really physical, while others were (merely) chemical, or a physiologist, that some biochemical processes were chemical, and others only physiological. (1985, p. 110)

Furthermore, Oyama challenges the privileged status of contiguous causation that often seems to be the implicit justification for molecular analyses:

Shifting among levels of analysis is not to be conceived, then, as movement along some axis defining degrees of essential reality or causal primacy, but rather as choice of dimensions along which a complex reality is constituted.

. . . As we move down the levels, we do not approach the True or the Real or even the Rockbottom Causal. We do change scale, vocabulary, concepts and method. . .

A process at one level . . . may mean more than one thing at another, and several processes at a ‘lower’ level may specify the same one at a ‘higher’ one. . . . A given arm movement may have many possible meanings, while a variety of movements may constitute the same act. (Oyama, 1985, p. 145)

Oyama continually questions the gratuitous agency that is implicit, if not explicit, in bipolar interpretive patterns, even by attempting to keep the tripolarity of our targeted phenomena continuously in view:

If . . . selection is carried out by progressively altering conditions (or by allowing organisms to select and alter conditions) and simply allowing differential reproduction, then phenotype, genotype and environment may change together in a progression a’ trois that is one of the paradigm cases of evolution. The developmental ‘program’ is the functioning system and is composed of a set of complex relations among the three; it is equally so whether the phenotype is rare or common in that generation, and whether it is a successful contributor to the gene pool or dies without progeny. (Oyama, 1985, p. 102)

Elsewhere, she states in a similar vein:

The gene does not build organisms in some special centrally controlled way that other interactants do not. But then, the organism does not make (most of) its own environment, either, though it does select and alter its surroundings. Nor does ‘the environment’ make organisms or adaptations over ontogenetic or phylogenetic time. The conjoining of construction to interaction and systems is meant to work against this persistent desire to meet the maker. (Oyama, 2001, p. 188)

Note, however, that in the final sentence quoted here, even an author with Oyama’s unusual sensitivity to directionally biased terms has dispositionized the interpretive practices themselves by invoking desires of the interpreter. Nevertheless, in other passages she clearly acknowledges the necessity for including the role of the interpreter within the interpretation and identifies the need
to find a way of addressing our phenomena of concern in a way that moves beyond old dichotomies.

One psychological domain in which explicit recognition of extended time relations has gained some acceptance is the domain in which we commonly speak of “self-control.” Actions that constitute self-control are typically accounted for in teleological language (e.g., “Bob declined the invitation to go skiing in order to prepare for the following Monday’s calculus exam, but George went skiing despite the exam”). While the teleological phrasing acknowledges that there is a problem (the remotely impending exam), which may be sufficient for informal parlance, the dispositional aspect misdirects our attention and thus obscures the basis for effective action. Even the term “self-control” implies that an intrinsic, dispositional aspect of the person is involved (Bob has self-control; George lacks it). The resistance to immediate temptations is construed as internal, whether the temptations themselves are seen as environmental or as presumed internal ones such as hungers or other “primitive” impulses.

Mischel (1974, 1975) demonstrated long ago that techniques or repertoires of self-control can be taught as well as studied, examining both situational and dispositional determinants of “delay of gratification.” He presented his results as challenging the traditional interpretations of self-control that appeal to “person characteristics” such as the Freudian “ego-strength,” having arrived at this position by examining both situational and dispositional determinants of “delay of gratification.” Instead of finding evidence for stable traits whereby individuals would differ consistently across diverse setting, he and his colleagues found that under appropriate conditions virtually all subjects, both children and adults, selected a remote but preferred outcome and adhered to that choice over fairly long intervening periods. Thus, Mischel was led to question the interpretive practice that we have characterized as integrative dispositioning.

On the other hand, Mischel’s interpretations entailed both teleological and mediational dispositioning. He accounted for the person’s initial choice of a remote but more preferred reward over an immediate but less preferred one

...as determined mainly by the subject’s expectations concerning the probable consequence of selecting each alternative. ...expectancies relevant to these outcomes depend on the individual’s direct and vicarious past experience and trust relationships, modeling cues, specific contingencies in the choice, and so on. (Mischel, 1974, p. 288)

This invoking of the expectation construct, then, is an example of teleological dispositioning, which appears to serve the interpretive function of preserving contiguous causation by appeal to the inferred present expectation rather than directly to the past events that produced it9.

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9 As we have described in detail, some teleological dispositioning is concerned with situations in which the individual’s reaction to the putative future events is a strictly verbal product, and in these cases the teleological interpretation is not misleading. Mischel (1962) (unpublished grant report described in Mischel, 1974) found, however, that subjects’
The mediational dispositioning in Mischel’s account arises in his interpretation of behavior that occurs during delays after the initial choices are made. Ingenious experiments demonstrated that subjects were less likely to abandon the remote alternative in favor of an immediate, less preferable one if they engaged in behavior unrelated to enjoyment of the preferred but remote alternative—either by preoccupation with other, preferably pleasant alternatives or by thinking about the abstract rather than the hedonically attractive characteristics of the preferred alternative. Mischel proposed that these coping repertoires are normally maintained by escape from frustration, although his demonstrations of their effectiveness were based upon procedures in which subjects were directly instructed to engage in particular activities during the delay periods. If one views these various coping strategies as ongoing behavior—whether overtly singing songs unrelated to the chosen alternative or covertly imagining pleasant events, their mediating role is for the most part straightforward, for engaging in one activity can reduce the likelihood of engaging in another. On the other hand, when the ongoing activities are construed in terms of mental representation, the interpretive exercise slips into gratuitous mediational dispositioning, for as Mischel acknowledges:

Obviously there is a great discrepancy between the theoretical importance of rewards for the maintenance of goal-directed behavior and our lack of understanding of how the cognitive or mental representation of rewards figures in the regulation of complex behavior. (Mischel, 1974, p. 263)

Nevertheless, he defends that dispositionally-based approach, however problematic it may be.

In addition to acknowledging the absence of a principled account of how such representations translate into behavior (a problem that still awaits satisfactory solution several decades after the statement quoted just above), Mischel implicitly recognized a problem that appears related to implicit assumptions of contiguous causation:

. . .not attending to the goal was what facilitated self-control most dramatically. But it should be recognized that the mental transformations and distractions which occur during delay do not erase or undo the role of the reward contingencies in the waiting situation. This was evident from data which showed that there was little persistence in ‘thinking fun’ or playing with a toy when there was no reward contingency for waiting. . . .Additional evidence that the contingency was available mentally throughout the waiting period is that the children easily reproduced, verbally or by appropriate action, the contingencies at the end of the waiting period. . . .Obviously, then, the transformation of the answers to verbal questionnaires, while often correlating with answers on other questionnaires, were less consistently related to the nonverbal behavior that the questionnaires were presumably addressing. To the extent, then, that delay of gratification is independent of verbal functioning, the events in the person’s past experience are themselves the best predictors of the individual’s behavior.
aversive waiting into a pleasant play period does not efface the task-oriented purpose of the behavior, and presumably the two processes somehow coexist. (p. 272)

If one instead undertakes a multi-scaled analysis of concurrently ongoing activities that are loosely interrelated while organized on disparate time scales, accounting for them as nested relationships is a relatively straightforward matter.

At about the same time as Mischel’s work cited just above, some research and theorizing emerged within the behavior-analytic tradition that has accounted for key aspects of “self-control,” defining it explicitly in terms of behavioral process extended in time. Besides recognizing, as Mischel did, that “self-control” is not a matter of self versus non-self, it was also seen that it was not a matter of internal versus external and that the key relationships do not necessarily involve verbal or symbolic processes. Indeed, if those processes are involved, one still has to account for what brings them (as well as less elaborate self-control repertoires) into play. The answer to this is to be found in the shape of “temporal discounting functions,” which clarify how it is that one’s choices between alternatives anchored at disparate points in time can change from moment-to-moment. Nonlinearity of such functions (as well as non-exponential properties, thus ruling out the “compound-interest” type of function posited by most economic theory) was demonstrated early on in experiments with pigeons (Ainslie, 1974; Rachlin & Green, 1972), and the function has been repeatedly delineated as hyperbolic in form with both nonhuman and with human subjects (e.g., Mazur, 1987; Rachlin, Ranieri, & Cross, 1991). Most saliently, then, hyperbolic temporal discounting functions account for the fact that a person’s repertoires of “committing” in relation to long-term consequences can prevail over his or her short-term, impulsive repertoires. Rachlin (1995) subsequently developed this account in terms of conflicting local versus extended patterns of behavior rather than between adjacent versus remote, isolated events. Either way, in shifting our focus from ill-specified dispositional events or entities within the actor, these analyses reveal operative relationships that, recognized explicitly, can enable us to teach and maintain the patterns that we characterize and value as “self-control.”

With respect to the characteristics of interpretive prose in relation to extended time relations, a most interesting theoretical account is that of Ainslie (2001), who provides a thoroughgoing conception of multiply-scaled analysis of temporally extended psychological/behavioral process. While Ainslie’s patterns of discourse do not entirely finesse the bipolar/tripolar conundrum of organism, situation, and behavior, his explicit focus on disparate, overlapping time relations between behavior and environment is combined with an explicit conception of the person (or “self”) that substantially breaks free of the person/situation dichotomy. Instead of viewing the self as unitary (e.g., making rational decisions as is implicit in traditional theories of choice or in the Cartesian dualism embedded in ordinary language) Ainslie construes the Self as a population of “interests”—more like a population of bargaining agents than like a hierarchical command structure. On the one hand, he identifies these interests as “the mental operations selected for by a
particular kind of reward” (p. 42); on the other hand, since those interests are defined by external rewards or rewarding events, their dynamic interactions are usually described as of indeterminate spatial locus (i.e., unspecified as to whether they are internal constructs or direct behavior–environment relations), with the focus remaining on changes over time in their relative dominance.

The key operative principle throughout Ainslie’s conception is based upon firmly established empirical findings that we have noted above showing that the effects of a given outcome (or reward) upon choice of the alternative leading to that outcome decreases hyperbolically with the temporal distance between the choice and the outcome. Thus:

...people may have a variety of contradictory preferences that become dominant at different points because of their timing. The orderly internal marketplace pictured by conventional utility theory becomes a complicated free-for-all, where to prevail an option not only has to promise more than its competitors, but also act strategically to keep the competitors from turning the tables later on. The behaviors that are shaped by the competing rewards must deal not only with obstacles to getting their reward if chosen, but also with the danger of being un-chosen in favor of imminent alternatives. (2001, p. 40)

In this passage, the pattern of Ainslie’s prose places agency within the behavior–consequence relation itself. Even when Ainslie identifies agency more conventionally (as residing with the person) the multi-scaled temporal dynamics force a disunity of the self:

An agent who discounts reward hyperbolically is not the straightforward value estimator that an exponential discounter is supposed to be. Rather, it is a succession of estimators whose conclusions differ; as time elapses, these estimators shift their relationship with one another between cooperation on a common goal and competition for mutually exclusive goals. Ulysses planning for the Sirens must treat Ulysses hearing them as a separate person, to be influenced if possible and forestalled if not. (2001, p. 40)

...power-bargaining made necessary by finite means of expression—may be all that unifies a person. ...The factor that impels toward unity the various behavioral tendencies that grow from a person’s rewards may be the realization that they are, in effect, locked up in a room together. (2001, p. 43)

Acknowledging that he has violated some conventional assumptions, Ainslie asks and observes:

Are ordinary people really populations of interests rather than something more solid? It’s disturbing to think of yourself as so fluid, so potentially unstable, held together only by the shifting influence of available rewards. It’s like being told that atoms are mostly empty and wondering how they can bear weight. Yet the bargaining of interests in a society can produce highly stable institutions; perhaps that’s also true of the internal interests created by a person’s rewards. (2001, p. 44)
Defending the plausibility of his view, Ainslie shows that multiply-scaled processes of hyperbolic temporal discounting can yield enduring patterns that are consistent over time—indeed comprising the “will” of “willpower”:

Hyperbolic discount curves from a series of choices increase the preference for larger but later rewards when they’re added together, which suggests a solution to the mystery: The device of choosing according to principle, which has been advocated since Aristotle’s day, groups your choices into just such series. Principles of choice, or ‘personal rules’ represent self-enforcing contracts with your future motivational states; such contracts depend on your seeing each current choice as a precedent that predicts how you’re apt to choose among similar options in the future. Short-range interests evade personal rules by proposing exceptions that might keep the present case from setting a precedent. The will is a recursive process that bets the expected value of your future self-control against each of your successive temptations. (2001, p. 89)

Prospects for Transcending Bipolar Interpretation through a Focus on Temporal Extension

As Gergen (1999) wryly observes, “Meddle with the self, and all the bones of tradition start to rattle” (p. 16). Thus, Ainslie’s account is likely to provoke controversy as his prose floats over the chasm between situation and disposition while decomposing the traditional conception of a unitary, single-agent self into a population of shifting, competing “interests” that are defined by external relationships between choice and consequence. Oyama’s more direct approach of resisting the pervasively dispositional accounts that have permeated developmental biology is likely to be less provocative, for she explicitly invites readers to join her struggle with the constraints of interpretive language. Nevertheless, it is clear that some of her otherwise discerning colleagues lapse into the dispositional bias by placing agency within the organism even though they advocate transcending the dichotomization of genes versus environments. Similarly, as we have documented here, psychological scholars who have recognized the dispositional bias and explicitly studied it seem unaware of the degree to which they indulge in that bias, even while discussing it as an interpretive error.

Subtly but inextricably bound up in this is the pervasive assumption of contiguous causation that underlies most psychological theory, granting privileged causal status to the momentary “now.” Even when remote time relations are explicitly at issue, it is commonly assumed that if past events are to affect behavior they must be attendant at the instant of concern—as representations, traces, or other residues of past events. Future events, too, are understood as affecting present behavior only via surrogate expectations or representations. Psychological process, then, is typically construed as an ongoing succession, a concatenation of successive “slices of simultaneity.” Dispositional terms play a key role in this when they obscure the extended time relations that provide their occasions of use. They also obscure the dynamic character of psychological/behavioral phenomena.
Our hope is that recognizing the vernacular origins of dispositioning, while also highlighting its largely unacknowledged role in obscuring extended time relations, can enable a shift of emphasis. The dynamic character of psychological/behavioral process consists in patterns of change through time, and thus explicit recognition of temporal extension is important for adequately characterizing the dynamic characteristics that result. To the extent that this departure from contiguous causation implies abandoning our intuitive conception of self as a compact, unified center of awareness, it is consistent with contemporary developments in scientific understanding both outside and inside psychology. For example, Resnick (1997) declares the contemporary scene to be an “Era of Decentralization”—decentralization in political and other organization, in technologies, in theories of knowledge, in scientific models, and even in theories of self and mind (pp. 6-19). Even mainstream cognitive psychology, which is mediational and thus dispositional by nature (Hineline & Wanchisen, 1989), has come to be permeated by themes that challenge, or at least de-emphasize, the role of a Cartesian, controlling executive that fixes agency at a single locus within the person. Thus, in addition to Watkins’s (1990) direct challenge to “mediationism,” which we have already noted, one finds an extensive literature on “implicit learning” and other recognitions that much of normal psychological functioning occurs without awareness (Kihlstrom, 1987). Wegner (2002) even builds a case that personal agency is a feeling that needs to be accounted for rather than a causal reality.

A direct focus upon extended, multi-scaled time relations can replace the characterization of persons as comprised of static factors with a more dynamic portrayal of psychological/behavioral process. For many this is likely to require a new understanding of the environmental side of the organism/environment/behavioral triad. Indeed, Resnick (1997) appears to have arrived at his “decentralized” conception by including in his models an environment that itself implements procedures rather than consisting of the linearly additive influences assumed by analysis of variance. More generally, it implies that gathering data through direct observations and real-time measurements, rather than through questionnaires and other “assessment instruments,” while convenient and inexpensive, provide only indirect and static snapshots of psychological process.

Abandoning an over-dependence upon dispositional interpretation and embracing a conception of extended time in psychological process may also require a rethinking of our relationships to each other as well as to our experiments. Being an integral person need not be predicated upon a self hidden somewhere behind the eyes. Oyama portrays the individual as a developmental system; behavior analysis portrays the person as unique locus, substantially defined by historical continuity as well as by integral relationships between individuals and the surrounding social and nonsocial context. Both assume that one’s individuality includes active interrelatedness with the surrounding world. Embracing multi-scaled analysis at the intuitive level may serve to bring us more directly into synchrony with quicksilverish flow of events within which we find
ourselves and enable us to interpret the behavior of others in the same manner as we interpret our own.

Appendix

Given that authors immersed in a consideration of dispositioning as a flawed interpretive pattern failed to notice its presence in their own writing (as did the reviewers and editors of the rigorously scientific journal in which their article appeared), many readers will likely have difficulty discerning it as well. Hence, we include here a list of quotations from Choi et. al. (1999), including in square brackets our identifications of the dispositional features of those quotations.

Lay dispositionism (i.e., the belief that behavior results from dispositions) also produces mistaken beliefs about the consistency of individual differences. (p. 47)

[“Belief” is a dispositional term, and its use here is concatenated with beliefs said to produce beliefs.]

How one describes the person—self or other—provides an opportunity to infer what kind of causal theory of behavior one has (e.g. analytic vs. holistic). (p. 48)

[The authors clearly assume a person’s dispositioning, or lack thereof, should be accounted for in terms of theory as a person’s possession—a dispositional characteristic of the person.]

This developmental pattern (whereby the difference between Easterners’ and Westerners’ attributions increases with the age of the attributer) indicates that a theory of person or behavior is gradually socialized within a culture. (p. 49)

[The shaping role of the culture is thus acknowledged, but it is characterized as shaping its members’ dispositions, which the authors then appeal to in accounting for the behavior of the members of that group, rather than as shaping the patterns of interpretive behavior that constitute and ARE the cultural pattern of interpreting.]

The cultural difference (between Hindu Indians and Americans) was larger for bad behavior than for good behavior. This is, however, understandable given that a good or prosocial behavior is less diagnostic of its corresponding disposition. (p. 50, italics added)

[This not only asserts that there is, indeed, a disposition to be diagnosed, it also implies that the disposition is somehow more fundamental than the good or prosocial behavior itself.]

Concluding their initial general survey of literature, the authors state:
In conclusion, the East–West difference in causal attribution is overall quite robust. However, what is the origin of this difference? Is it due to differences in dispositional theory, differences in sensitivity to context, or a combination of the two? (p. 51)

[Dispositional theory as a proposed source of a person’s dispositioning is itself a proposed dispositional cause, as is sensitivity.]

To assess the locus of the cultural differences, the attribution process should be considered in some detail. It consists of at least two theoretically distinct cognitive operations. (p. 51)

[Note that the authors do not acknowledge their assumption, which becomes evident here, regarding what constitutes an explanation—that it must be understood via characteristics of peoples’ internal processes rather than as cultural practice maintained via principles of interaction between people. Again, then, we find the authors giving privileged interpretive status to dispositional accounts.]

There are at least three possible models to explain such cultural differences. (p. 51)

[Each of their proposed models concerns internal processes of inferring, thus, again, dispositional accounts.]

We can infer what kind of causal theory a person has from the way the person uses causally relevant information. (p. 51)

[i.e., It is asserted that explanatory dispositions are possessions of the person, and that the appropriate interpretation of explanatory practice is dispositional.]

We have shown that East Asians and European Americans have similar semantic representations of personality structure. (p. 55)

[This construes a pattern as occurring in cognitive processes rather than in cultural practice, even though the authors are collectively characterizing the practices of a cultural group.]

If East Asians possess a strong personality theory, they might be expected to make trait-based predictions. . . (p. 56)

[Frame the question in this way pre-judges the question of whether peoples’ behavior should be explained in terms of dispositions.]

So far, we have tried to show that the typical East–West differences in causal attributions derive primarily from East Asians’ relative sensitivity to situational influences on behavior, not from their lack of dispositionist beliefs. (p. 57, italics added)
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[Both “sensitivity” and “beliefs” are dispositional terms; hence, the authors are entertaining only the question of which kinds of dispositions account for the differing cultural practices.]

We believe that East Asians may have a more holistic notion of the person in which the boundary between the person and the situation is rather porous and ill-defined. (p. 57)

[Here, the imputed Eastern disposition to be non-dispositional is given a pejorative characterization: “notion. . .ill-defined.”]

References


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