

## Reconnecting Psychoanalysis to Mainstream Psychology: Metaphor as Glue

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In recent decades, psychoanalysts have examined the role of metaphor in psychodynamic theory and therapy, but the uses of metaphor in psychoanalytic research have received only modest attention. After briefly reviewing extant psychoanalytic writings on metaphor, we discuss how research from outside psychoanalysis (i.e., studies of embodied affect–space links, mental images and prototypes, and associative networks) can inform us about the nature of metaphor. We then explore the ways that metaphor deepens our understanding of psychodynamic research and its implications, focusing on metaphoric definitions of concepts, and the metaphoric features of experimental manipulations and outcome assessments. Implications of a metaphoric perspective for the empirical testing of psychoanalytic concepts are discussed, and future directions for exploration in this area are described.

Metaphor has been defined as “the mapping of one conceptual domain onto a dissimilar conceptual domain . . . resulting in a transfer of meaning from one to the other” (Modell, 1997, p. 106). As Lakoff and Johnson (1980) noted, metaphor is not merely a rhetorical device, but a fundamental way of thinking and understanding. Metaphoric concepts connect ostensibly separate aspects of human experience, linking body and mind, emotion and memory, past and present, unconscious and conscious. Our ability to interact and communicate effectively with others depends upon a shared metaphoric understanding of ourselves and the world; intersubjectivity is inextricably grounded in metaphor. Formal definitions notwithstanding, perhaps the most useful conceptualization of metaphor is itself metaphoric: Metaphor is the glue that links disparate aspects of human mental life, over time and across different contexts, enabling us to construct cohesive personal narratives that give meaning to past and present experience.

Although the concept of metaphor is rooted in linguistics, in recent decades psychoanalysts have noted the central role that metaphor plays in psychoanalytic theory and therapy (Borbely, 2009; Gargiulo, 2006; Katz, this issue). Metaphor helps unify disparate psychoanalytic perspectives (e.g., drive theory, object relations theory, self psychology) and illuminates common elements of different models. Analysts have begun to explore the ways in which metaphor may be a useful tool for embedding psychoanalysis in a broader epistemological context as well, making explicit connections between psychoanalysis and other areas of inquiry (e.g., Levin, 2009; Modell, 2005). In this respect, metaphor has the potential to bridge the divide between

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psychoanalysis and other perspectives on personality (e.g., cognitive, humanistic), other areas of psychology (e.g., developmental, social), and fields outside psychology (e.g., art, physics).

One issue that has received only modest attention from analytic writers is the role of metaphor in psychoanalytic research—the ways in which metaphor may help researchers test psychoanalytic hypotheses empirically, and utilize research findings from outside psychoanalysis to enhance psychoanalytic theory and therapy. This article seeks to fill that gap by examining the role of metaphor in research, to facilitate meaningful dialogue in this area. After briefly reviewing extant psychoanalytic writings on metaphor, we address two issues in detail: (a) how research from outside psychoanalysis can inform us about the nature of metaphor, and (b) how metaphor can deepen our understanding of psychodynamic research and its implications.

### THEORY, PROCESS, AND TREATMENT DYNAMICS: THE THREE PRONGS OF PSYCHOANALYTIC METAPHOR

Freud often relied on metaphor to describe psychoanalytic constructs and make esoteric concepts accessible to the reader. As Wachtel (2003) pointed out, many of these metaphors involved spatial and military imagery, sometimes in combination (e.g., Freud's, 1923, likening of fixation and regression to an army advancing through territories but leaving behind contingents of troops at various points along the way). For the most part metaphoric concepts have been applied in three domains of psychoanalysis: theory and metatheory, psychological process, and therapist–patient interaction.

#### Theory and Metatheory

A diverse array of psychoanalytic constructs (e.g., psychic energy, displacement, preconscious, repression, libido) are fundamentally metaphoric. As Wumser (1977) noted, this situation is not unique to psychoanalysis: Novel concepts from various disciplines often emerge first in metaphoric form, eventually acquiring fixed labels as they become more widely accepted. Resistance to acknowledging the metaphoric underpinnings of psychoanalytic concepts can have myriad negative effects, however, leading to “the error of misplaced concreteness” (Gargiulo, 1998, p. 416) wherein metaphoric concepts are reified and treated as immutable entities rather than descriptive labels.

Metaphor also plays an important role in psychoanalytic metatheory. Every major school of psychoanalytic thought (e.g., drive theory, self psychology, object relations theory) is identified by a metaphoric label that reflects the core assumptions characterizing that model (e.g., behavior as shaped by instinctual drives, mind-as-map, psyche as mental representations of self and significant figures). In some respects, the evolution of psychoanalytic metatheory during the past 100 years has been a search for the ideal metaphor to capture in a single word or phrase all the key elements of intrapsychic functioning and interpersonal dynamics.

#### Psychological Process

Metaphoric concepts have helped shape psychoanalysts' understanding of a broad spectrum of psychological processes, being applied most prominently to trauma, symbolization, memory

reconstruction, and the dynamics of emotional memories. In this context, Modell (1997, 2005) delineated the ways in which metaphoric processes help categorize and map emotional experience, providing structure and agency during periods of intense or overwhelming affect. Consistent with Modell's view, Stern (2009) noted that dissociation occurs when this process fails, and memories of traumatic experiences are not infused with metaphor. As a result, traumatic experiences become isolated and compartmentalized, and cannot take on new meaning: The patient is unable to apply new experiences to gain a more nuanced understanding of the traumatic event. As trauma gradually comes to be seen through a metaphoric lens, the patient can begin to experience the traumatic event as part of an evolving life narrative, linking the traumatic experience to aspects of the self and facilitating a therapeutic shift from knowing to feeling.

### Therapist–Patient Interaction

Seventy years ago, Sharpe (1940) conceptualized free association—the grist of the psychoanalytic mill—as a metaphoric process in which preverbal events are expressed through speech. More recently, Arlow (1979) suggested that psychoanalytic treatment *in toto* is inherently metaphoric: The patient provides the analyst a metaphoric expression of unconscious fantasy, and the analyst engages the patient by adopting the perspective that the patient's metaphor requires. Consistent with Arlow's view, Ogden (1997) noted that a central curative element (or *common factor*) in many psychodynamic interventions is that they help the patient replace concrete language with metaphorical dialogue.

Metaphor not only provides the essential language of psychoanalytic process, but plays a key role in shaping transference by functioning as a “pattern detector so that the meaning of an old relationship is unconsciously transferred into the here and now” (Modell, 2005, p. 526). Borbely (1998) captured nicely the central role of metaphor in these aspects of therapist–patient interaction, noting that “in order to be able to help the analyst must be in possession of a theory and technique of metaphor language, which is capable of conceptually encompassing the salient developmental stages, traumata and conflicts of childhood, as well as the events unfolding in the transference” (p. 933). In this respect, different psychoanalytic schools may differ in the details, but they share a common goal of conceptualizing (and helping the patient conceptualize) psychological development, conflict, striving, and defense in metaphoric terms.

## HOW RESEARCH INFORMS METAPHOR: REIFYING THE UNOBSERVABLE

In recent years, psychodynamic theorists have used research findings from outside psychoanalysis to explore the ways that metaphor can enhance our understanding of a broad array of psychoanalytic concepts. The most widely discussed links involve neuropsychology, wherein research on brain structure and function has elucidated the biological underpinnings of unconscious mental processes, helped trace the evolutionary roots of human behavioral predispositions, and been used to examine the interplay of neuropsychological, social, and cultural influences on affective experience and emotional responding (e.g., Modell, 2005; Slipp, 2000).

Developmental studies—especially those focusing on early infant–caregiver interactions—have also garnered considerable attention. Research in this area has provided an empirical basis

for distinguishing primary—or *root*—metaphors (i.e., metaphors that originate in preverbal bodily awareness), from metaphors that are more strongly shaped by experience (Modell, 1997). Developmental studies have also enhanced analysts' understanding of the ways in which variations in infant–caregiver mirroring (itself a metaphoric concept) shape subsequent personality dynamics (Stern, 2009).

Cognitive science has been a third area of emphasis, with cognitive research helping elucidate the role of metaphor in contextualizing memories, and the process by which retrieval of schema-based memories inevitably results in some degree of distortion and reconstruction (Michels, 2005). These latter findings have been particularly relevant for understanding the long-term negative effects of early trauma, and the obstacles to accessing and working through traumatic memories in psychoanalytic treatment.<sup>1</sup>

Beyond these widely studied topics, a number of research programs from outside psychoanalysis have the potential to enhance our understanding of the psychodynamics of metaphor. Three stand out.

### Metaphorizing the Environment: Embodied Affect–Space Links

Central to contemporary psychodynamic models of metaphor is the assumption that there are inborn, preexisting connections between affect and bodily experience, sometimes described as *embodied affect–space links*. For example, there appears to be an innate association between upward gaze or movement and positive affect (as reified in the assumption that heaven is skyward, and the common comment that *things are looking up*), and a parallel association between downward gaze or movement and negative affect (which is why Hell is below us and sometimes we feel down). Until recently, evidence for embodied affect–space links was primarily anecdotal, but research from social cognition has provided empirical support for psychoanalytic thinking in this area.

For example, Meier and Robinson (2004) found that evaluations of affectively positive words occurred more rapidly when those words were presented in the upper portion of the visual field, whereas evaluations of negative words occurred more rapidly when these words were presented in the lower portion of the visual field; presumably our tendency to associate *up* with positive affect and *down* with negative affect facilitated cognitive processing when affect and word position were concordant. In a subsequent series of studies, Meier et al. (2007a) found that participants encoded God-related concepts more easily if those concepts were presented in a high (vs. low) vertical position; the opposite pattern was obtained for devil-related concepts. A second study demonstrated that when participants were presented with God- and devil-related concepts and later asked to recall the physical location of each concept, they showed a bias toward misremembering God-related concepts as being high and devil-related concepts as being low. When shown pictures of strangers and asked to assess their religious beliefs, participants rated strangers as stronger believers in God when their pictures appeared high in the visual field.

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<sup>1</sup>Although numerous analytic writers have drawn upon studies from cognitive science to test and refine psychodynamic concepts, Michels (2005) pointed out that many constructs in contemporary cognitive science are flexible enough that they can be incorporated into extant psychodynamic frameworks without altering these frameworks in substantive ways (cf. Bucci, 1997).

Studies further suggest that these highly automatized metaphor-affect links are not limited to vertical position. For example, Meier, Robinson, et al. (2007b) found that people perceive positive words as being brighter in color than negative words, which appear comparatively dark (even though all the words were actually presented in the same shade). Meier et al. (2008) demonstrated that, metaphorically speaking, bigger is, indeed, better: Positive words were evaluated more rapidly when presented in a large font, whereas evaluations of negative words were more rapid when their font was small. These size biases occur for neutral words as well: In a follow-up experiment, affectively neutral words were evaluated as being more positive when their font was large, and more negative when their font was small.

### Internalizing the External: Imagery as Metaphor

Each individual's internal world can be conceptualized as a metaphoric representation of the external world. We construct and retain mental images of significant figures (e.g., mother, father, self) that have both physical attributes and affect qualities (e.g., benevolence, punitiveness, empathy, rigidity; see Blatt et al., 1993). We construct mental images of other features of the external world, as well (e.g., common objects, familiar environments), and like mental representations of significant figures, our mental images of inanimate objects are to some degree veridical, and to some degree distorted. These distortions reflect constraints inherent in the human information processing system (e.g., external percepts are reconstructed as they are encoded in memory) and psychodynamic processes as well (e.g., affective experiences which bias the ways in which we perceive and encode object features). Some of our internalized images need not reflect external reality at all: Many mental images depict people or places we have never actually seen (which is why we can generate an image of an ideal lover we've never met or what the stairways inside the World Trade Center must have looked like on 9/11).

Research on the metaphoric aspects of mental imagery may point toward a deeper understanding of the ways in which person and object representations shape behavior and affective responding. Like affect-space links, our mental representations of self and others reflect innate predispositions to encode images in particular ways. Thus, cognitive scientists have shown that mental images must be conceptually categorized before they can be encoded in long-term memory (Finke, 1989; Kosslyn, 1994); there is no such thing as an uncategorized mental image. As we form mental images, we integrate objective features of the stimulus with an array of expectancy and experience variables that modify the initial percept, transferring meaning into the image (thus, a photograph of a person is encoded differently when the person is identified as a criminal than when they are identified as a scientist; see Bornstein and Craver-Lemley, 2004).

Prototypes—exemplary members of a conceptual category—also illustrate the ways in which mental images have metaphoric qualities (Corneille et al., 2004). When asked to picture a dog, few people generate an image of a dachshund, but instead generate a more prototypic dog, like a retriever. People judge retrievers to be *doggier* dogs than dachshunds, and hence more prototypic (Rosch, 1978). The same occurs with psychodynamically relevant prototypes, so that as transference occurs and an older male therapist takes on more and more paternal attributes, the therapist gradually comes to resemble the patient's *father* prototype. Metaphorically speaking, the therapist has replaced the father (see Borbely, 1998, 2009, for more general discussions of metaphoric aspects of transference).

## Metaphoric Associates: Accessing the Unconscious

Central to the definition of metaphor is that meaning is transferred among ostensibly unrelated concepts; through this process connections among different objects, ideas, and experiences are created, and associative links are developed and maintained (Fosshage, 2005; Melnick, 2000). Some of these metaphoric connections seem logical and rational (as when unfamiliar authority figures take on parental attributes); other metaphoric connections have a more idiosyncratic, primary process quality (as when smiling clowns appear threatening and malevolent).

Metaphoric links among tangentially related concepts can be quantified using the Emotional Stroop Task (EST; Riemann and McNally, 1995), a laboratory procedure designed to map an individual's associative network by determining the degree to which a concept within that network is active at any given moment. On the EST, a prime word (e.g., FATHER) is first presented, following which a target word (e.g., STRONG) appears. The target word is presented in one of several colors (e.g., blue, green, red), and the participant's task is to ignore the content of the target word and name the color in which that word is printed as quickly as possible. To the extent that the prime word (FATHER) is conceptually linked with the target word (STRONG) in the mind of the participant, the target word will be activated by the prime word, and reaction time will slow because the participant must devote additional attentional capacity to deliberately ignoring the activated concept and focusing on the color—an effortful, time-consuming task (see Williams et al., 1996). Thus, EST response times are typically slower when FATHER is followed by STRONG than when FATHER is followed by TABLE, suggesting that most people have a stronger associative link between the first two concepts than the latter two concepts.

The EST can also be used to examine individual and group differences in associative links (Bornstein et al., 2005; Dozois & Backs-Dermott, 2000), helping quantify the “transfer of meaning from one to the other” (Modell, 1997, p. 106) that forms the basis of metaphor. For example, most psychodynamic frameworks would suggest stronger associations between FATHER and DANGEROUS in men than in women, so EST response times for this word pair should be longer in men. Women who have been sexually abused by their father should show longer reaction times to this word pair than women who have not been sexually abused. To the extent that the FATHER = DANGEROUS equivalence has generalized metaphorically to other male authority figures, one would expect that abused women's reaction times for HUSBAND (or MAN) and DANGEROUS would also be lengthened.

Using similar logic, the degree to which THERAPIST is metaphorically linked with MOTHER, FATHER, or PARENT can be evaluated using the EST, as can the degree to which SICK is associated with POWERFUL (if, e.g., the clinician believes that a particular patient is motivated to remain symptomatic to gain influence within the family). Finally, it is worth noting that changes in associative linkages over the course of treatment can be evaluated using this procedure. For example, EST reaction times for THIN and GOOD should decrease in an anorexic patient during the course of successful treatment, but remain unchanged in an anorexic patient for whom treatment was less successful.

## HOW METAPHOR INFORMS RESEARCH: INSIDE THE FREUDIAN SKINNER BOX

Freud's liberal use of metaphor has led some philosophers of science (e.g., Grunbaum, 1984) and critics of psychoanalysis (e.g., Crews, 1996) to describe Freud's work—and much of

the theorizing that followed—as unscientific. Freudians are hardly alone in their reliance on metaphor to identify and describe unobservable constructs, however. Many core concepts in physics (e.g., black holes), biology (e.g., natural selection), and chemistry (e.g., molecular bonds) are metaphoric. As Wurmser (1977) pointed out, “Metaphors, taken literally, are unscientific. Metaphors, understood as symbols, are the only language of science we possess” (p. 483). Edelson (1983) put it more directly: “A scientific theory is a metaphor for reality . . . it is only through our studies of the metaphors of science that we can come to find out which is real” (p. 56).

In this respect, a focus on metaphor may help inform psychodynamic research, and illuminate the ways in which the empirical testing of psychoanalytic hypotheses overlaps with and differs from the empirical testing of hypotheses in other domains. In the following sections, we discuss the role of metaphor in delineating scientific concepts, developing useful experimental manipulations, and quantifying the impact of these manipulations on thought, emotion, and behavior.

### Naming the Unobservable: Metaphoric Concepts

Naming the unobservable is invariably metaphoric, and because all theories of personality invoke unobservable theoretical constructs, all rest upon metaphor. The left column of Table 1 lists some widely used psychodynamic constructs, many of which are clearly metaphoric in nature (e.g., repression, ego, repetition compulsion). The right column of this table lists parallel labels for these concepts that were developed by researchers in other, more scientific areas of inquiry. Perusal of these alternative labels confirms that they, too, are metaphoric (e.g., cognitive avoidance, central executive, nuclear script). As Bornstein (2005) pointed out, even though operational definitions of the psychoanalytic and nonanalytic versions of these constructs typically differ in certain respects, in every instance there is considerable overlap between the two versions of a given construct.<sup>2</sup>

It is important that psychoanalysts become familiar with the operational definitions of key psychodynamic concepts, and with the operational definitions of parallel nonanalytic concepts, for two reasons. First, by doing this our theoretical frameworks will become more rigorous, and more firmly embedded in an appropriate nomological network of related constructs: Researchers in other areas have much to teach us if we attend to their ideas and findings more closely. Second, by becoming familiar with the various definitions applied to a given concept, we will be in a better position to prevent these concepts from being co-opted by researchers in other disciplines. Myriad seminal constructs originating in psychoanalytic theory (including those listed in Table 1) have been renamed and reinvented by nonanalytic psychologists, who gradually assumed intellectual ownership of the co-opted constructs (see Bornstein, 2005, 2007b). This process has contributed substantially to the decline of psychoanalysis within mainstream psychology in recent years.

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<sup>2</sup>Behaviorists might argue that behavioral models—especially radical behavioral models—are metaphor-free, but they would be wrong. Myriad behavioral constructs (e.g., generalization, discrimination, unconditioned stimulus, avoidance learning, intermittent reinforcement) are to varying degrees metaphoric.

TABLE 1  
Revisions and Reinventions of Psychoanalytic Concepts

<i>Psychoanalytic Concept</i>	<i>Revision/Reinvention</i>
Unconscious memory (Freud, 1900/1953a)	Implicit memory
Primary process thought (Freud, 1900/1953a)	Spreading activation
Object representation (Freud, 1905/1953b)	Person schema
Repression (Freud, 1910/1957a)	Cognitive avoidance
Preconscious processing (Freud, 1915/1957b)	Preattentive processing
Parapraxis (Freud, 1916/1963)	Retrieval error
Abreaction (Freud, 1916/1963)	Redintegration
Repetition compulsion (Freud, 1920/1955)	Nuclear script
Ego (Freud, 1923/1961)	Central executive
Ego defense (Freud, 1926/1959)	Defensive attribution

*Note.* Original Freudian sources are identified by year of original publication/date of corresponding Hogarth Press *Standard Edition* volume.

### Operationalizing Phenomenology: Metaphoric Manipulations

Every experimental manipulation is a metaphor for *in vivo* experience; the more closely the phenomenological impact of a manipulation approximates that of the real-world experience we are trying to evoke, the more effective the manipulation. This principle can be restated in empirical terms: The external validity of an experimental manipulation is a function of the degree to which that manipulation produces the intended psychological impact in participants (e.g., evokes the desired emotional response, initiates a thought pattern, alters a motivational state).

Thus, when examining the impact of affect state on self-report and free-response measures of interpersonal dependency, Bornstein et al. (1996) asked participants to write brief essays regarding traumatic events, joyful events, or neutral events to induce a corresponding mood. In a subsequent investigation examining the impact of the presence (versus absence) of an authority figure on dependency related behavior, Bornstein (2006) employed an experimental manipulation wherein some participants were told that a psychology professor would soon arrive at the laboratory to evaluate their performance in the study, and other participants were told that no one but the undergraduate experimenter would have access to their data. In this instance, the unseen professor was a metaphoric stand-in for authority figures in general.

Similar logic holds for other psychodynamically relevant research programs. For example, Subliminal Psychodynamic Activation researchers frequently use the subliminal message MOMMY AND I ARE ONE to evoke pleasurable feelings associated with Mahler's (1968) symbiotic stage, when infant and caregiver were psychologically merged (Weinberger and Hardaway, 1990). Conversely, I AM LOSING MOMMY has been used to induce feelings of helplessness and abandonment (Patton, 1992). Along somewhat different lines, Pennebaker (1997) has documented the positive effects of cathartic unburdening of negative affect by asking participants to write essays regarding traumatic events and experiences. In these studies, essay writing replaces more traditional verbal disclosure (e.g., free association) as a method for accessing heretofore unexpressed thoughts and emotions.



### Quantifying Impact: Measurement as Metaphor

Just as experimental manipulations are metaphoric replacements for *in vivo* experiences, the outcome measures used in most studies are metaphors for *in vivo* responses. For example, the Rorschach inkblots are just that—inkblots—but descriptions of these inkblots are taken to represent respondents' perceptions and experiences of self and other people (see Exner & Erdberg, 2005). Put another way, when a respondent's descriptions of inkblots are filled with malevolent imagery, we assume (and data confirm) that these malevolent attributions taint the respondent's perceptions of actual people, as well (Blatt, 1990; Lerner, 2005). Simply asking someone if they see others as dangerous is likely to produce a defensive reaction at best, and at worst outright hostility; asking someone to describe inkblots allows them to make malevolent misattributions without acknowledging (or even recognizing) their source (Bornstein, 2007a).

The notion that measurement is metaphor for *in vivo* response is not limited to inkblots, but occurs for a broad array of psychological assessment tools. Following Milgram's (1963) groundbreaking obedience studies, there have been dozens of experiments examining conditions that exacerbate or inhibit people's willingness to behave aggressively toward others. But none of these investigations measured actual aggression (nor did Milgram): In every case, aggression was operationalized metaphorically and assessed indirectly (e.g., willingness to shock another person during a learning study, severity of prison sentence assigned to a mock trial defendant, number of personal fouls committed during a hockey game).

It is important to recognize the metaphoric aspect of measured outcomes, because, if we do not, we risk erroneously equating the measurement with the underlying variable it is intended to represent. Such equivalence errors—akin to Gargiulo's (1998, p. 416) "error of misplaced concreteness"—are surprisingly common in psychology. For example, a survey of five leading personality disorder (PD) journals revealed that 80% of all PD studies published between 1991 and 2000 relied exclusively on self-reports to assess both personality pathology and its correlates; no behaviors were ever measured in these investigations (Bornstein, 2003). Such patterns would be troubling in the best of circumstances, but are especially problematic given the topic being examined. After all, a distinguishing feature of PDs is limited insight and distorted self-awareness (Kernberg, 1984; Millon, 1996). It is ironic (to say the least) that the vast majority of PD studies rely exclusively on questionnaires, when we know *a priori* that the questionnaire responses of PD patients are almost certain to be unreliable.<sup>3</sup>

### RECONNECTING PSYCHOANALYSIS TO MAINSTREAM PSYCHOLOGY: CAN METAPHOR GLUE THE PERSON TOGETHER AGAIN?

Psychoanalysts' historical reluctance to embrace traditional empirical methods has had numerous unintended negative effects, including the co-opting of psychoanalytic ideas by researchers

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<sup>3</sup>PD researchers are not alone in their implicit equating of self-reports with the underlying variables assessed by self-report measures. Although the Five Factor Model (FFM; Costa and McCrae, 1997) is, far and away, the dominant model of personality in scientific psychology today, the vast majority of FFM studies rely exclusively on self-reports to assess personality as well as its correlates.

in other areas, and the marginalization of psychodynamic treatment in an increasingly cost-constrained managed care environment (Bornstein, 2001, 2005). Reconnecting psychoanalysis to mainstream psychology is crucial if psychodynamic principles and therapies are to regain the stature they had during the early part of the 20th century. Although metaphor is essentially idiographic in nature (see Arlow, 1979; Garguilo, 1998), it has the potential to contribute to a fruitful integration of psychoanalytic and nonanalytic perspectives, and to nomothetic, as well as idiographic, research efforts. In this context, the parallels between metaphoric and nomothetic understanding of internal and external reality, though subtle, are noteworthy. One function of metaphor is to contextualize emotional memories, tagging them with a sort of affect label that facilitates retrieval of these memories when similar situations arise in ostensibly unrelated contexts years—even decades—later. Nomothetic research serves a similar function: It contextualizes disciplinewide principles (*scientific memories*) to facilitate retrieval of these principles when similar results emerge in new, ostensibly unrelated contexts (see Bornstein, 2009, for a discussion of this process in the evolution of personality assessment, quantum theory, and nonrepresentational art).

Psychoanalysis is in a unique position to conceptualize and study metaphor in the laboratory, as it has in the consulting room. Continued efforts in this area represent an opportunity to strengthen the empirical base of psychoanalysis, and increase the relevance of psychoanalytic research for clinicians. Equally important, a focus on metaphor may provide one of the best opportunities to identify those psychoanalytic constructs that have been co-opted, renamed, and reinvented by researchers in other disciplines. In this respect, understanding the contrasting metaphoric labels used by psychoanalysts and others to identify similar psychological constructs represents a unique opportunity for us to reclaim what is ours.

Understanding scientific metaphors is key, but scrutinizing the pseudo-scientific metaphors that are sometimes used to describe psychological constructs is important, as well. Oftentimes, patients have internalized misleading metaphors to understand mind and brain, leading them to develop inaccurate beliefs about psychological difficulties and unrealistic expectations regarding psychological treatments (e.g., that the effects of early trauma will dissipate immediately if repressed memories of the traumatic events can be accessed). Worse, countless patients have been harmed by well-meaning clinicians who internalized misleading metaphors (e.g., memory as film or computer hard drive rather than sketchpad, dissociative identity disorder as literally reflecting multiple personalities rather than a fragmented ego/self). Understanding how research informs metaphor (and vice versa) can help correct the distortions associated with reliance on pseudo-scientific metaphors in our patients, and in ourselves.

A similar process of self-scrutiny may be useful in understanding the limitations of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) as a tool for classifying psychopathology. Many DSM category labels have become metaphors for the syndromes they are intended to identify, and we find ourselves describing patients in metaphoric terms (e.g., *a flaming borderline*, *a toxic narcissist*). Exacerbating the problem, DSM category labels have become so widely used that many are now dead metaphors, having lost their metaphoric qualities. In this context, one important contribution of the *Psychodynamic Diagnostic Manual* (PDM) is that it calls our attention to the fact that DSM categories represent only one of many possible metaphoric frameworks for describing psychological syndromes. To the extent that the PDM helps clinicians see the metaphoric qualities of DSM labels more clearly, it can enhance the rigor of both diagnostic systems.

Finally, as the study of metaphor moves forward, it may be time to shift our focus from general principles of metaphoric process to individual differences in metaphor use. Beyond emphasizing the fundamental role that metaphor plays in thinking and understanding, Lakoff and Johnson's (1980) work illustrates how different groups (e.g., liberals and conservatives) differ in their use of metaphor to conceptualize various issues. Although initial research in this area focused on individual differences in political attitudes and beliefs, the same principles hold for other individual difference variables, as well (e.g., gender, age, ethnicity). Examining differences in metaphoric process in different types of patients (e.g., histrionic versus borderline) may allow us to tailor our interventions more precisely and enhance the effectiveness of psychodynamic treatment.

Thus, in addition to elucidating the role of metaphor in psychoanalytic theory, and the ways in which metaphor may deepen our understanding of research and its implications, it is time to explore differences in metaphor as a function of gender, culture, personality style, and other psychologically relevant variables. A truly integrative 21st-century psychoanalysis must not only combine clinical wisdom with empirical data, and embed its ideas and findings in the broadest possible epistemological context, but it must also refine its interventions to maximize treatment effectiveness for patients with a broad array of backgrounds and diverse life experiences.

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