Metaphors have an emotive force and aesthetic dimension that has long been recognized. What has made metaphor so compelling to contemporary philosophers, however, has been its importance to cognition. Aesthetics and philosophy of religion are no longer the sole province of the study of metaphor. Instead, most of the research is located in the philosophy of language, philosophy of science and cognitive science. The ubiquity of metaphor and its contribution to all forms of discourse, the apparent anomaly of metaphor in light of standard accounts of language, and the increased interest by philosophers to provide theories for natural (rather than formal or artificial) languages has made an account of metaphor an important criterion of adequacy for theories of language. The limits of literality have similarly been felt in accounts of science and cognition. Max Black's (1962) seminal work connecting the use of scientific models to metaphors opened an area of inquiry now pursued by psychologists and cognitive scientists as well as philosophers of science. Some philosophers join questions of the role of metaphor in science to debates concerning scientific realism (Hesse 1970; Boyd 1979). The work emanating from theories of language and theories of science and cognition converge in concerns about meaning change, computer modeling of discovery processes, linguistic competencies, creativity and religious discourse (Soskice 1985).

While many questions remain, a few issues have been settled. The view of metaphor as an isolated word or phrase, which is an occasional, unsystematic, and deviant, phenomenon in language valued for its rhetorical force but disdained for its ability to mislead or be used in place of proper argument, has been challenged. Metaphors have come to be understood as syntactically complex (Black 1962; Tirrell 1991) attributions, which may or may not be grammatically deviant (Stem 1985). Following I. A. Richards (1936) and Black, they are generally taken to implicate entire conceptual domains or semantic fields (Kittay 1987) through

which a metaphor is interpreted, extended, and even systematically integrated into the language (Lakoff & Johnson 1980). They either exploit some similarity between the metaphorically used term (the vehicle or source) and the concept spoken of (the topic or target) or create or intimate a similarity. While the similarity appealed to in earlier discussions pertained to intrinsic properties or properties associated with vehicle and topic, similarity has increasing come to mean a relational or structural similarity-akin to models and analogies-between the contexts or domains (Black 1962; Goodman 1968) implicated in the metaphor,

While earlier debates concerned metaphor's cognitive value, current debates accept its cognitive function and ask if this function is properly assigned to metaphoric meaning, and whether it is a distinctive form of cognition not reducible to other forms such as the capacity to recognize similarity and make comparisons. The outcome of the debate is important to the nature of language, of thought, and of epistemic enterprises such as science. If metaphors having meaning, then a theory of language must explain how such meaning is determined, and any account of mind in which linguistic capacity plays a central role for cognition must similarly explain how cognitive faculties make use of, and make possible, metaphorical thought. Similarly, if the use of metaphorical language in knowledge domains such as science is not reducible to literal language, then we need metaphor in order to understand and explain what is knowable. Furthermore, if we need metaphor to access scientific knowledge, as well as for aesthetic or evocative purposes, then the domains such as art and religion may be more akin to science -or related in more interesting ways-than we have presumed (Fleischacker 1994). But if metaphors perform their cognitive function without generating a distinctive meaning, then theories of language that are based on literal language suffice; metaphoric contributions to cognition are assimilable to other, already understood or accepted cognitive abilities; the

cognitive role of metaphor would be valuable only as a heuristic (although in the case of combinatorially-complex problems, the heuristic contribution of metaphor itself may be irreplaceable), and we maintain a clear delineation between the scientific and the poetic.

The position propounding metaphoric meaning and the cognitive irreducibility of metaphor was staked out by Black, and has been subsequently been buttressed by arguments and evidence gathered by philosophers of science, cognitive psychologists, philosophers of language and linguists. However, the parsimony of the opposing position, and its elegant articulation by Donald Davidson (1978), continues to make it attractive, despite the counterintuitive claim that metaphors have no meaning and the weighty evidence of metaphor's importance in all cognitive endeavors.

Philosophers claiming that metaphors have meaning generally begin by accepting some version of the interaction theory of metaphor (see Beardsley [1967], for a summary of theories of metaphor), but have utilized the resources of many different semantic theories (e.g., possible world semantics [Bergman 1982; Hintikka & Sandu 1994], semantic field theory [Kittay 1987], cognitive semantic [Lakoff & Johnson 1980], a componential semantics [Levin 1977], a Wittgensteinian semantic, and David Kaplan's semantics for demonstratives [Stern 1985]). Some utilize speech act theory, claiming that metaphors are a feature of speaker meaning rather than sentence meaning (Searle 1981) or that metaphors are, in the end, elliptical similes after all (Fogelin 1988). Newer comparison theories, the theory that metaphors are elliptic similes or implicit comparisons, explore the notion of figurative, rather than literal similarity. Some of these theories offer a causal theory, opposing it to a semantic theory, claiming that metaphors cause us to make comparison by "intimating similarities" and have a causal effect of creating intimacy among speaker and listener (Cohen 1978; Cooper 1986). Questions remain concerning

the relation between metaphor both to literal language (e.g. can the distinction can be drawn in a clear fashion? is the interpretative process is the same or different? is language is originally metaphorical or literal?) and to other nonliteral language (see Jakobson 1960 and Hintikka & Sandu 1994).

The importance of metaphor in science was stressed by Mary Hesse (1970), who developed the understanding of metaphors as systematic analogies in which the "neutral," that is, unexplored analogical relations provide a distinctive source for predictive claims. Dedre Gentner (1982), a cognitive psychologist, along with her associates, have identified features, such as systematicity and higher-order relations, that make some metaphors more productive for cognitive purposes than others.

Noting the affinity between metaphor and analogy has permitted a number of researchers in philosophy and psychology to made headway with computational approaches to metaphor-a promising tool for testing theories of metaphor and for understanding the extent to which accounts of metaphor are amenable to formal and precise accounts (Holyoak and Thagard 1989; Steinhart & Kittay 1994). Making use of advances in our understanding of metaphor, theorists have explored the role of metaphor in creativity, in language acquisition and concept formation, and in both the consolidation and the breakdown of habituated patterns of thought such as cultural prejudice. These latter developments (which have especially been taken up by feminist philosophers and other social critics) bring the question of the cognitive role of metaphor full circle, reconnecting it to its rhetorical force.

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