



# What is the explanatory value of a conceptual metaphor?

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## Abstract

Lakoff [Women, Fire, and Dangerous Things: What Categories Reveal about the Mind. The University of Chicago Press, Chicago, IL, 1987.] and other “conceptual metaphor” theorists have argued that our use and understanding of figurative language is mediated by unconscious metaphoric correspondences that structure human concepts. Communication scholars have employed the conceptual metaphor framework to infer attitudes and beliefs from the figurative expressions people use to describe their personal experiences. However, these scholars rarely scrutinize the framework’s assumptions, many of which have been vigorously challenged in other disciplines. In this article, I critically assess the explanatory value of the “conceptual metaphor” construct and review the empirical evidence for and against it. Based on this assessment, I conclude that despite its important atmospheric influence, the conceptual metaphor framework has not fared well as an account of conceptual structure or a model of figurative language understanding.

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## 1. Introduction

A metaphor (from the Greek *metapherein*, meaning “transference”) is a figure of speech in which a word or phrase is used to describe something it does not literally denote, e.g., *This journal is a gem*. You may or may not agree with this characterization of the journal, but you probably had no difficulty understanding it. Furthermore, your understanding did

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not hinge on a literal reading of the sentence – e.g., at no point in your reading did you wonder about the journal’s carat weight or how it might look in an engagement ring. The meanings of metaphorical expressions do not coincide with the literal meanings of words comprising them. How then do we go beyond the literal to understand them? There are scholarly contemplations of this question dating back to Aristotle, but only in the twentieth century has it been regarded as an important problem in the study of language and thought.

Aristotle (1965) considered metaphor a sign of language mastery and genius, but he also deemed it ornamental, appropriate for poetry but too enigmatic for philosophical or scientific discourse. Few contemporary language scholars agree with his limited view of metaphor’s utility, although many still endorse his account of metaphor understanding. According to what has come to be known as the Aristotelian “comparison view,” metaphors of the form *X is a Y* are understood by implicitly converting them into simile form, *X is like a Y* (*This journal is like a gem*). This conversion serves the dual purpose of affording the proposition literal truth (in that any two things, even a journal and a gem, are literally alike in some respects) and making explicit the analogical comparison Aristotle presumed to be the crux of metaphor. Once converted to a simile, the metaphor is then interpreted by determining the commonalities of the two things compared. The comparison view thus treats metaphor as a species of analogy and asserts that the perception of similarity is the basis of metaphor use and comprehension (Miller, 1993; McGlone, 2003).

Aristotle’s relegation of metaphor to stylistics had the unfortunate effect of leading many subsequent generations of language scholars to ignore the topic altogether. Up until the late 19th century, the study of metaphor was primarily the province of literary scholars who focused on the interpretation of particular tropes in poetry and fiction. Near the turn of the twentieth century, French philologist Breal’s (1899) *Essai de Semantique* sparked new interest in the topic among American linguists and philosophers. Breal persuasively argued that metaphor was not mere ornament, but a ubiquitous feature of language and a principal device of linguistic change. Richards (1936) later took up this cause and introduced a terminology of metaphor that has become fairly standard: The term used metaphorically is the “vehicle” (e.g., *gem*), the term to which it is applied is the “tenor” or “topic” (e.g., *this journal*), and the meaning of the metaphor is the “ground.” Building on Richards’ work, philosopher Max Black (1962) articulated an influential alternative to traditional views of metaphor understanding. Having rejected Aristotle’s comparison view as too simplistic, Black argued that metaphor is a communicative phenomenon operating not at the level of mere word meaning, but at the (ostensibly) deeper level of conceptual structure. According to his “interaction view,” metaphors are understood by perceiving the topic concept “in terms of” the vehicle concept to produce a ground that combines their alignable conceptual attributes and thereby transcends their literal denotations. Contemporary metaphor theorists have frequently (and justly) criticized Black’s vague account of figurative transcendence, but most have nonetheless adopted his notion of “interaction” as a preferable alternative to “comparison” for describing the cognitive processes underlying metaphor use and understanding (Ortony, 1979; McGlone and Manfredi, 2001).

In the years since Black’s (1962) treatise, a variety of theories and models have been offered to specify how topic and vehicle concepts interact to yield metaphoric meanings. Undoubtedly the most influential has been the “conceptual metaphor” framework advanced by the linguist George Lakoff and his colleagues (Lakoff, 1987, 1990, 1993, 2002; Lakoff and Johnson, 1980, 1998; Lakoff and Turner, 1989). According to their

proposal, the production and comprehension of metaphorical language are mediated by metaphorical correspondences that structure our mental representations of complex concepts. For example, consider the concept of love. Lakoff (1993) has argued that our understanding of this concept is guided by “conceptual” metaphors<sup>1</sup> that assimilate the target concept “love” into concrete source concepts such as “containers” and “journeys.” The conceptual metaphor LOVE IS A CONTAINER<sup>2</sup> entails a correspondence between love relationships and containers, and between the lovers and entities inside a container. These correspondences are inferred from expressions such as *We are in love*, *We fell out of love*, and *We are trapped in this relationship*. The conceptual metaphor LOVE IS A JOURNEY entails correspondences between lovers and travelers, the love relationship and a traveling vehicle, problems in the relationship and obstacles in the path of travel, and so forth. Expressions such as *We are at a crossroads in our relationship*, *Love is a two-way street*, and *We may have to go our separate ways* are consistent with these correspondences. Lakoff and Turner (1989) contend that conceptual metaphors not only mediate our use and understanding of “frozen,” idiomatic expressions, but also underlie our creation and interpretation of novel metaphors (e.g., *Ten years of marriage would give anyone saddle sores*), which only rarely coin descriptive themes de novo.

Conceptual metaphor theorists posit two distinct but related roles for LOVE IS A JOURNEY (and other figurative schemata) in the human conceptual system. First, it is presumed to play a *representational* role by structuring our understanding of love. This claim derives from the rhetoric of “cognitive economy” (Miller and Johnson-Laird, 1976), according to which the mind borrows the semantic structure of simple concepts to organize aspects of complex concepts that might be too computationally expensive to represent in a stand-alone fashion. Second, LOVE IS A JOURNEY is hypothesized to play a *process* role in that it mediates our use and understanding of certain metaphoric expressions pertaining to love. For example, upon encountering the statement *Our relationship has hit a dead end* in discourse, we can retrieve the conceptual correspondences between love and journeys in semantic memory (lovers-travelers, relationship-vehicle, problems-obstacles, etc.) to interpret the statement. Again, the metaphor’s hypothesized process role appears to be economical from a cognitive standpoint, in that (a) metaphoric meanings may be retrieved from memory rather than constructed, and (b) the meanings of several metaphoric expressions (*dead end*, *spinning our wheels*, etc.) may be generated from a single semantic structure (the LOVE IS A JOURNEY schema).

In recent years, Lakoff and his collaborators have formulated a vast taxonomy of conceptual metaphors to describe the figurative expressions we use to talk about concepts such as anger (ANGER IS HEATED FLUID UNDER PRESSURE, as in *Matt blew his stack*), crime (CRIME IS A DISEASE, as in *Midtown has been plagued by a series of bank robberies*), death (DEATH IS DEPARTURE, as in *The old man finally passed away*), mentality (THE MIND IS A CONTAINER, as in *What do you have in mind?*), and many others (Lakoff, 1987, 1993; Lakoff and Johnson, 1980, 1998; Kovecses, 1990,

<sup>1</sup> The dual reference of the term *metaphor* in conceptual metaphor theorists’ writings is a potential source of confusion. The term is used to refer both to the verbal trope (its conventional sense) and to the hypothesized system of correspondences between domains. Rhetoricians have traditionally used the term *analogy* to convey the latter sense. However, in fairness to conceptual metaphor theorists, I will follow their convention.

<sup>2</sup> Following the notational convention of Lakoff and his collaborators, I will use uppercase titles to identify conceptual metaphors.

2000; Fauconnier and Turner, 2003). The influence of this organizational scheme extends well beyond the domain of linguistics. Philosophers have used it to describe how our understanding of abstract concepts is “embodied” in sensorial experience (Gibbs et al., 2004; Johnson, 1987; Stern, 2000; Talmy, 1996). Cognitive scientists and artificial intelligence researchers have developed process models of language comprehension in which conceptual metaphors figure prominently (Albritton et al., 1995; Carbonell, 1982; Gibbs, 1994; Way, 1991). The theory has also had an impact on conceptions of the relationship between language and thought in such diverse fields as cultural anthropology (Holland, 1982), law (Winter, 1989, 1992), literary studies (Fauconnier and Turner, 2003; Giora, 2003; Turner, 1987, 1991), political science (Lakoff, 2002; Paris, 2002), and religion (Soskice, 1987).

Despite communication’s long tradition of scholarly inquiry into the form and function of rhetorical figures (Osborn and Ehninger, 1962; Crocker, 1977), the discipline’s reception of conceptual metaphor theory has been curiously uncritical. Scholars in the field have used the framework to infer attitudes and ideologies underlying figurative language in the discourse of economics (Eubanks, 1999, 2000; Kecskes, 2004), education (Goulden and Griffin, 1995; Staton and Peeples, 2000), family interaction (Buzzanell and Burrell, 1997; Hayden, 2003), illness and disease (Bradac, 2001), journalism (Kitis and Milapides, 1997), organizational communication (Koch and Deetz, 1981; Deetz, 1984; May, 1994), politics (Ausmus, 1998; Bosman, 1987; Bosman and Hagendoorn, 1991), social science (Danaher, 1998), and war (Kuusisto, 2002; Lule, 2004; Medhurst et al., 1998). However, the field has yet to scrutinize Lakoff’s claims about the thought processes underlying metaphor use and understanding, many of which have been vigorously challenged in other fields. If the notion of a “conceptual metaphor” is to be treated as a useful analytic construct in communication research, then a critical assessment of its explanatory value is overdue.

The evaluation of conceptual metaphor theory that follows is in three parts. In Section 2, I discuss how the theory’s representational claim fares as an account of human conceptual structure. In Section 3, I describe the empirical evidence pertinent to the theory’s process claim regarding metaphor use and understanding. Finally, in Section 4, I draw conclusions about its promise as a comprehensive theory of figurative language and thought.

## 2. The metaphoric representation of conceptual structure

In all of their writings on the subject, conceptual metaphor (CM hereafter) theorists make it very clear that they do not view metaphor as being solely (or even primarily) a linguistic phenomenon; rather, they consider it a mode of conceptual representation. Lakoff and Johnson (1980) argued that metaphor constitutes the modal method by which the mind represents concepts that are not sensorial or perceptual in nature:

“Many aspects of our experience cannot be clearly delineated in terms of the naturally emergent dimensions of our experience. This is typically the case for human emotions, abstract concepts, mental activity. . . . Though most of these can be *experienced* directly, none of them can be fully comprehended on their own terms. Instead, we must understand them in terms of other entities and experiences, typically other *kinds* of entities and experiences” (p. 177).

On this view, metaphor provides a way to “piggyback” our understanding of abstract concepts on the structure of concrete concepts, which are presumably represented in a stand-alone fashion.

Given their insistence on the role of metaphor in conceptual representation, it is surprising that CM theorists have not offered a detailed model of how metaphoric representations are constructed or used. In the absence of an explicit model from the theory’s framers, Murphy (1996) formulated two versions of what this model might look like, a strong version and a weak version. In the strong version, all concepts other than those based directly on sensorial-perceptual experience have no intrinsic structure of their own. Instead, they are represented entirely as a set of mappings to the representational structure of more concrete concepts. For example, consider the hypothesized conceptual metaphor THEORIES ARE BUILDINGS (Lakoff and Johnson, 1980). This metaphoric mental structure is inferred from idiomatic expressions such as *She constructed a theory to explain the incident*, *That theory is on shaky ground*, etc. According to the strong version, the structure of the target concept (“theory”) is a set of argument-related entities (see Fig. 1) that are organized by correspondences to entities in the source concept (“buildings”). The strong version assumes that we cannot reason about theories in and of themselves, but must instead apply our knowledge of buildings to theory properties. This version suggests that we don’t understand theories in any real sense; we can only understand buildings, and must piggyback the “theory” concept on this understanding. Although Lakoff and his colleagues do not explicitly endorse this version, they have made several claims consistent with it. For example, Lakoff and Turner (1989) argue that conventional love-journey expressions demonstrate that the “structure of our understanding of love comes from the structure of our knowledge of journeys” (p. 62). Similarly, Lakoff and Johnson’s (1980) assertion that “the essence of metaphor is understanding and experiencing one kind of thing in terms of another” is also consistent with this view (p. 5).

The strong version of the metaphoric representation claim is problematic for at least two reasons. First, it is not clear how the mind could construct such a representation without at least some semantic primitives in the target concept that exist independently from

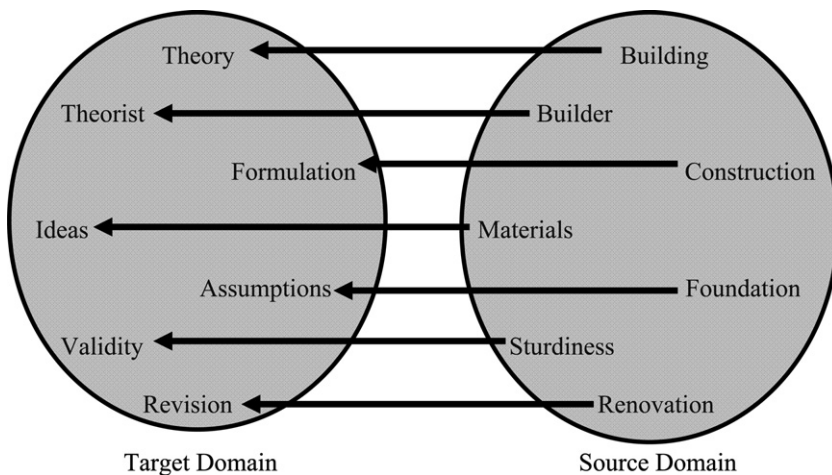


Fig. 1. Hypothesized correspondences between attributes of the concepts “theory” and “building”.

those in its corresponding source concept. For example, we must have some direct representation of theory-related entities (e.g., theories themselves, theorists, ideas, assumptions, etc.) if they are to be distinguished from building-oriented entities to which they conceptually correspond. Without a minimally independent representation of theories, we would assume that theory terms are synonymous with building terms, and would be conceptually incapable of distinguishing between their referents. Second, the strong version predicts that our knowledge of abstract concepts includes incorrect information that is a by-product of their metaphoric structure (Murphy, 1996). For example, if we understand theories entirely in terms of buildings, then we should occasionally make erroneous inferences about the applicability of building properties to the abstract concept – e.g., theories not only can have foundations (assumptions), architects (formulators), and blueprints (origins), but also stairwells (?), hallways (?), sprinkler systems (?), etc. People rarely, if ever, make inferences of this sort; however, someone whose concept of theories is entirely parasitic on her knowledge of buildings could learn to distinguish correct from incorrect inferences only through a lengthy (and unlikely) process of trial and error.

The strong version of the metaphoric representation claim is theoretically untenable, but Murphy's (1996) weak version might seem more plausible. According to this version, abstract concepts are not piggybacked on concrete concepts, but are nonetheless influenced by their conceptual structure. Metaphor still plays a role in organizing the abstract concept, but the representation of the abstract concept is not metaphorical per se. For example, our knowledge of theories may be represented in a stand-alone fashion, complete with semantic primitives that are intrinsic to theories and independent from our knowledge of buildings. However, the ubiquity of building-oriented idioms about theories in our culture may have exerted an influence on our understanding of theories, resulting in a concept of theories that is structurally similar to our concept of buildings. Thus, the weak version assumes that metaphor plays a causal role in the structure of abstract concepts, but is not the *sine qua non* of their conceptual representation.

In contrast to the strong version, the weak version is conducive to empirical investigation. A reasonable test of the claim would, at a minimum, involve three steps. First, one would identify an abstract concept for which the idiomatic expressions used to describe it in a particular culture suggest a conceptual metaphor, such as the THEORIES ARE BUILDINGS metaphor in our culture. Next, one would explore the idiomatic expressions used in another culture to describe the concept and determine whether this culture employs a different metaphor. Third, having established that members of the different cultures *talk* about theories in different ways, one would then demonstrate that they *think* about theories in different ways, as evidenced by their performance in non-verbal reasoning about theories. This third step is crucial, for without it there is no empirical basis for the claim that conceptual metaphors transcend their linguistic manifestations (Lakoff, 1993).

To date, conceptual metaphor researchers have not ventured beyond the first step of this investigation. Lakoff and his colleagues base the metaphoric representation claim solely on their intuitions about how certain idioms thematically cohere. As evidence for this claim, the idiomatic corpus suffers from two problems. First, the early history of the Whorfian hypothesis demonstrates the pitfalls of using only linguistic evidence to argue for deep connections between thought and language (McGlone, 2001). Whorf (1964) hypothesized that language influences thought by providing semantic distinctions and categories that we use to perceive and reason about objects and events in the world. However, the early evidence for this hypothesis was linguistic – specifically, differences in

syntax and semantics among the world's languages. For example, Whorf's celebrated claim that Inuit speakers think of snow differently from English speakers was supported only by the observation from which the claim was derived – that Inuit languages have more snow descriptors than English (as it turns out, this observation was either a misunderstanding or a deliberate fabrication; see Pullum, 1991, for an account of the “Great Eskimo Vocabulary Hoax” in linguistics and anthropology). Thus, the linguistic evidence was treated as both the cause and effect of relativity. Analogously, Lakoff's claim that metaphors transcend their linguistic manifestations to influence conceptual structure rests solely on these manifestations. How do we know that people think of theories in terms of buildings? Because they use building-oriented terminology to talk about theories. Why do people think about theories in terms of buildings? Because they use building-oriented terminology to talk about theories. CM theorists clearly must abandon circular reasoning of this sort and seek substantiation of their claims that is independent from the linguistic evidence.

A second problem with the idiomatic evidence is that its support for the metaphoric representation claim may be illusory. Our intuitions about how idioms metaphorically reflect their meanings are often quite compelling, but are shaky grounds for developing an account of how their meanings are represented in semantic memory. In fact, the very act of generating an intuitive theory about an idiom's meaning can make us resistant to alternative accounts that are demonstrably more accurate. Philological fixedness of this sort was demonstrated in a clever set of experiments by Keysar and Bly (1995). Participants studied a series of unfamiliar idioms, each of which was presented in one of two story contexts. For example, the archaic British idiom *the goose hangs high* was presented in a story that biased participants to interpret it as referring to success or in a second story suggesting that it refers to failure. After participants read the idiom in one of these biasing contexts, they were asked to evaluate the likelihood that people might interpret the idiom in the opposite manner if it were presented in isolation. Once participants had learned one meaning for the idiom, they were doubtful about the possibility that someone might interpret it in a different way. This conditioned incredulity is a form of hindsight bias in which participants developed a rationale for how each idiom metaphorically reflected the initial meaning it was ascribed. Once the rationale was articulated, it impeded their ability to consider a different metaphorical scheme that would justify the idiom's opposite meaning. Someone who was initially led to believe that *the goose hangs high* refers to success might assume that the metaphorical basis for its meaning is the conventional correspondence between “high” and positive affect (e.g., HAPPY IS UP, SAD IS DOWN, Lakoff and Johnson, 1980). In contrast, someone initially led to believe that it describes failure might assume that the goose's death symbolizes defeat (FAILURE IS DEATH, Johnson, 1987). Without knowledge of the idiom's actual etymology and meaning (the former account is in fact more accurate), both of these metaphoric schemes seem plausible, but clash with meanings of the idiom other than one they were designed to explain.

CM theorists interpret the idiomatic corpus in a manner similar to the post-hoc rationalization process observed by Keysar and Bly. They assume that our intuitions about idioms' meanings directly reflect the way these meanings are represented in semantic memory. However, introspective evidence in no way guarantees that the epistemological account is accurate, and in some cases may be downright misleading. To illustrate, consider your intuitions about the metaphorical structure of the idiom *the spittin' image*. This idiom is used to refer to the striking physical resemblance of one thing to another – e.g.,

*Martha is the spittin' image of her mother.* But how does the idiom metaphorically reflect this meaning? One might construct an account in which reference to a bodily fluid (*spit*) is meant to symbolize the genuine, physical quality of the resemblance. Such an account comports with Johnson's (1987) arguments for the metaphoric grounding of psychological experience in bodily functions (e.g., *I couldn't swallow the idea* reflects a THINKING IS DIGESTION metaphor). Moreover, the "bodily fluid" account is also compatible with the idiom's status as an impolite expression (Makkai et al., 1995; McGlone and Batchelor, 2003). Nevertheless, this theory of the idiom's origin is entirely erroneous: *The spittin' image* is a contraction of the phrase *The spirit and the image* (Feldman, 1990). In this example, the availability of objective etymological information enables us to evaluate (and ultimately discredit) our intuitive theory about the expression's origin. Analogously, the claim that idioms reflect the metaphoric structure of abstract concepts cannot be objectively evaluated without evidence that is independent from our intuitions. At present, there is simply no evidence suitable for this evaluation.

### 3. Conceptual metaphors in figurative language comprehension

The strong and weak versions of the metaphoric representation claim have not fared well empirically. However, an even weaker version of the claim might be worth considering. According to this version, schemata like THEORIES ARE BUILDINGS do not structure our understanding of theories in general (the strong version), nor do they exert an indirect influence on the structure of our theory knowledge (the weak version). They nonetheless are part of our knowledge of how people talk about abstract concepts, and play a role in our comprehension of figurative expressions about these concepts. Gibbs (1992, 1994) has been the major proponent of this version, which amounts to a *process* claim – i.e., that conceptual metaphors underlie the cognitive process by which we interpret figurative language.

Gibbs has proposed that our comprehension of the vast majority of linguistic metaphors – both idiomatic and novel figurative expressions – is fundamentally a recognition process. Consider the statement *Our marriage is a rollercoaster ride*. According to Gibbs, we comprehend this statement by first recognizing it as an instantiation of the LOVE IS A JOURNEY schema. We then use the conceptual mappings the schema entails (e.g., lovers → travelers, relationship → vehicle, excitement → speed, positive affect → upward direction of travel, negative affect → downward direction of travel, etc.) to interpret the statement as an assertion that the marriage in question is emotionally unstable. These conceptual mappings are presumably retrieved to comprehend other love-journey expressions as well – e.g., *Love is a two-way street*, *Our relationship is at a crossroads*, etc.

Gibbs' account contrasts sharply with the "attributive categorization" discourse model of metaphor comprehension (Glucksberg et al., 1997; McGlone, 1996; McGlone and Manfredi, 2001). According to this model, metaphors such as *Our marriage is a rollercoaster ride* are understood as what they appear to be: Category-inclusion assertions of the form *X is a Y*. The vehicle term (*rollercoaster ride*) is understood as referring to a category that its literal referent exemplifies ("exciting and/or scary situations") and may plausibly include the topic concept (*our marriage*) as a member. When such a category is used to characterize a metaphor topic, it functions as an "attributive category" by providing properties to be attributed to the topic. The properties provided by this category can often be attributed to a wide range of topics. Thus, we can characterize things like adolescence,



careers, elections, or films as being metaphorical “rollercoaster rides” as well as certain marriages. With extensive use in metaphoric contexts, the vehicle’s attributive category referent can become a conventional meaning of the term. For example, the secondary meaning of the term *butcher* in the Random House Dictionary of the English Language is “to bungle or botch,” which reflects the term’s frequent use as a metaphoric descriptor of incompetence.

The CM and attributive categorization models differ in the degree to which they portray metaphor comprehension as an active, constructive process. Gibbs argues that metaphor meanings are retrieved as mappings between source and target topics. In contrast, the attributive categorization model contends that the meanings of conventional metaphor vehicles (e.g., *butcher*) may be retrieved from semantic memory, but are actively instantiated in different and sometimes novel ways for different topics. For example, understanding *That surgeon is a butcher* entails a different construal of the category of “incompetent, bungling people” butchers exemplify than understanding *that carpenter is a butcher*. Novel metaphors (e.g., *The U.S. has become stepfather to the Middle East*) draw on our knowledge of the vehicle’s stereotypical properties (in charge, despite being unfamiliar, unwelcome, and resented) and the attributional dimensions of the topic to construct attributive categories de novo (McGlone and Manfredi, 2001).

McGlone (1996) used a variety of experimental paradigms to investigate whether people retrieve conceptual metaphors or construct attributive categories to interpret nominal metaphors. In general, the results of these experiments did not support the CM view. For example, consider the statement *Dr. Moreland’s lecture was a three-course meal for the mind*, which instantiates (hypothetically) the conceptual metaphor IDEAS ARE FOOD (Lakoff and Johnson, 1980). When people were asked to paraphrase this statement, they rarely made mention of the potential correspondences between ideas and food (e.g., thinking → cooking, understanding → digestion, etc.), instead focusing on the high quantity and/or quality aspects of three-course meals that can be attributed to lectures. When asked to generate other metaphors that were similar in meaning to this statement, people modally generated metaphor vehicles from the same attributive category as three-course meals (e.g., *Dr. Moreland’s lecture was a truckload of information*) and infrequently generated vehicles from the food domain (e.g., *Dr. Moreland’s lecture was a steak for the intellect*). In a similarity ratings task, people’s perceptions of the similarity among metaphors did not reflect CM groupings. For example, the *steak* expression above was not perceived as being more similar to the original *three-course meal* statement than the *goldmine* expression, even though the first two vehicles are both from the food domain. Similarly, people’s comprehension of a metaphorical *three-course meal* was not facilitated by prior exposure to metaphors from the food domain (e.g., *That book was a snack*), but was facilitated by others from its attributive category (e.g., *That book was a goldmine*). Finally, people’s performance in cued recall for the *three-course meal* statement was far better when the cue describe the vehicle’s abstract attributes (*large quantity*) than when its source domain (*food*). McGlone obtained similar findings for a wide range of statements instantiating various conceptual metaphors. Taken as a whole, these findings cast serious doubt on the claim that conceptual metaphors underlie people’s comprehension of nominal metaphors in discourse. Instead, people appear to infer, articulate, and remember the attributive categories these metaphors imply.

As the above analysis indicates, there are good reasons to doubt the role of conceptual metaphors in metaphor comprehension. However, their potential role in idiom

comprehension might seem more plausible. While idioms cannot be taken as strong evidence that certain concepts are metaphorically structured (as I argued in the previous section), it is still plausible that people can recognize the metaphoric coherence of idioms in certain linguistic domains, and perhaps use this knowledge in idiom comprehension.

Evidence consistent with this proposal was reported by [Nayak and Gibbs \(1990\)](#). These researchers found that people can not only recognize the metaphoric similarities among idioms, but also use this knowledge to make judgments about the appropriateness of idioms in certain discourse contexts. For example, consider the idioms we use to describe anger. [Lakoff \(1987\)](#) has described anger idioms as clustering around two distinct conceptual metaphors, ANGER IS HEATED FLUID UNDER PRESSURE and ANGER IS ANIMAL-LIKE BEHAVIOR. Idioms like *flip your lid*, *blow your top*, and *get hot under the collar* are consistent with the former; others like *bite someone's head off*, *foam at the mouth*, and *jump down someone's throat* are consistent with the latter. Nayak and Gibbs found that participants in their studies based their judgments of the semantic similarity among anger idioms in part on their metaphoric similarities. Thus, *flip your lid* was judged to be more similar in meaning to *blow your top* than *jump down someone's throat*. In addition, people use metaphoric similarity to judge the stylistic consistency of anger idioms in stories such as the following (emphases added):

*Mary was very **tense** about this evening's dinner party. The fact that Chuck had not come home to help was making her **fume**. She was **getting hotter** with every passing minute. Dinner would not be ready before the guests arrived. As it got closer to five o'clock **the pressure was really building up**. Mary's tolerance was reaching its limits. When Chuck strolled in at ten minutes to five whistling and smiling, Mary...*

After reading this partial vignette, participants were asked to judge the appropriateness of *blew her top* and *bit his head off* as descriptions of Mary's angry behavior in the final sentence. *Blew her top* was overwhelmingly preferred as a completion for this vignette. *Bit his head off* was preferred for the following:

*Mary was getting very **grouchy** about this evening's dinner party. She **prowed** around the house waiting for Chuck to come home to help. She was **growling under her breath** about Chuck's lateness. Her mood was becoming more **savage** with every passing minute. As it got closer to five o'clock, Mary was **ferociously** angry with Chuck. When Chuck strolled in at 4:30 whistling and smiling, Mary...*

The appropriateness ratings participants made for these and other idiom-vignette pairings clearly suggest that people can appreciate the metaphoric consistency of idioms in certain discourse contexts. However, [Nayak and Gibbs \(1990\)](#) argued that the appropriateness ratings indicated the relative difficulty participants had in comprehending the competing idiom completions. Idioms that metaphorically matched their story contexts – e.g., *blew her top* in a story describing anger in heat and pressure terms – were easier to interpret than idioms in nonmatching contexts. The appropriateness ratings, on this account, directly reflect the ease of idiom comprehension.

There are, however, plausible alternative interpretations of these data. The pattern of idiom preferences [Nayak and Gibbs](#) report is consistent with three different scenarios regarding the conceptual status of the ANGER IS HEATED FLUID UNDER PRESSURE metaphor. First, the metaphor might not be part of our conceptual knowledge

at all. It could be the case that we can simply appreciate how idioms imply a conceptual metaphor in interpretive contexts that motivate us to look for such metaphors, such as the appropriateness ratings task. Second, the metaphor might be in semantic memory and is available for use in processing idioms when appropriate occasions arise. In this scenario, the anger-heat equation is available in semantic memory and is accessed to understand *blew her top* in contexts that encourage consideration of the idiom's metaphoric underpinnings. Third, the metaphor might be available in semantic memory and accessed in any context in which anger-heat idioms are encountered, and thus serves as the conceptual basis for idiom comprehension. Lakoff (1993) appears to endorse this scenario when he suggests that the system of conceptual metaphors "...is used constantly and automatically, with neither effort nor awareness" (pp. 227–228). However, people's ratings of idiom appropriateness cannot validate or discredit this strong on-line processing claim.

To explore the hypothesized role of conceptual metaphors in on-line idiom comprehension, Glucksberg et al. (1993, Experiment 2) adapted the stories used by Nayak and Gibbs in the appropriateness ratings experiment for a reading-time task. The vignettes were presented to participants one line at a time on a computer screen, with either a metaphorically consistent idiom completion or an inconsistent completion. If conceptual metaphors are, as Lakoff (1993) argued, automatically accessed during reading, then metaphorically consistent idiom completions should have been read faster by participants than the inconsistent completions. However, there were no differences whatsoever in the reading times between the consistent and inconsistent conditions. Gibbs (1992) reported a similar failure to find effects of metaphoric consistency on idiom comprehension performance as measured by reading times.

Similarly, other studies have found evidence that, although compatible with Lakoff's (1993) strong on-line processing claim, is open to other interpretations. Albritton et al. (1995) explored the role of conceptual metaphors in people's memory for textual information. Participants in their study read texts containing metaphoric expressions that were potential instantiations of conceptual metaphors. For example, one text about urban crime read that *The city's crime epidemic was raging out of control*, and later stated that *Public officials desperately looked for a cure*. Both sentences presumably reflect the metaphor CRIME IS A DISEASE (Lakoff and Johnson, 1980). Using a post-comprehension cued recognition measure, Albritton et al. found that recognition of the first sentence was facilitated when cued with the second, suggesting that a link in memory had been established between these two sentences. While Albritton et al. concluded that this link was a by-product of on-line comprehension, the post-comprehension recognition measure they used does not preclude the possibility that the link was the product of a deliberate memory strategy. Furthermore, their failure to include appropriate controls for lexical priming (e.g., from *epidemic* to *cure*) renders any claim of on-line conceptual metaphor use dubious (Kreuz and Graesser, 1991).

McGlone and Harding (1998; see also McGlone et al., 1995) investigated the hypothesized CM mediation of temporal language comprehension. Linguists have long noted that two distinct movement perspectives are implicit in English expressions about temporal sequencing: One in which events are stationary relative to a moving observer (e.g., *We have passed the due date*) and a second in which events move relative to a stationary observer (e.g., *The due date has passed*; Bennett, 1975; Clark, 1973; McTaggart, 1908; Traugott, 1975). Lakoff (1993) described these perspectives as special cases of a more general TIME PASSING IS MOTION metaphor that maps temporal relations

to spatial relations. McGlone and Harding found two pieces of evidence suggesting that the entailments of these perspectives play a role in on-line language comprehension. First, people took less time in a timed judgment task to comprehend temporal sentences when they were presented in perspectively consistent blocks (i.e., all moving-observer or moving-event sentences) than in perspectively inconsistent blocks (i.e., moving-observer and moving event sentences juxtaposed). Second, people used the perspectival information in the different sentences types to interpret ostensibly ambiguous temporal sentences such as *The meeting originally scheduled for next Wednesday has been moved forward two days*. When participants encountered this sentence following an unambiguous moving-observer sentence (e.g., *We passed the deadline two days ago*), they modally interpreted the term *forward* as indicating that the meeting had been postponed, consistent with a perspective in which the direction of temporal movement is toward the future. However, when the ambiguous sentence was encountered following an unambiguous moving-event sentence (e.g., *The deadline passed two days ago*), they modally interpreted *forward* as indicating that the meeting had been moved earlier, consistent with a perspective in which events move from the future toward the past.

Do these data reflect participants' use of different cases of the TIME PASSING IS MOTION metaphor in on-line temporal language comprehension? Perhaps. However, McGlone and Harding noted that such a claim cannot be empirically distinguished from the more parsimonious claim that the moving-observer and moving-event perspectives in temporal language are structurally similar to (but not metaphorically derived from) the moving-observer and moving-object perspectives in spatial language. Jackendoff (1983) argued that although our conceptions of time and space may be thematically parallel (as evidenced by spatiotemporal expressions), the presumed primacy of spatial relations as the metaphoric grounding of temporal relations may be illusory. Spatial relations *seem* primary because of their relationship with nonverbal cognitive capacities such as vision and motor coordination. Nevertheless, it is epistemologically more plausible that space, time and other concepts are organized by a common set of abstract parameters that are simply more transparent in spatial language than other linguistic domains (Talmy, 1996). Jackendoff's argument applies with equal force to the hypothesized role of conceptual metaphors in our understanding of conventional expressions in domains other than time and space. For example, the semantic and syntactic similarities among conventional expressions we use to describe anger (e.g., *John was fuming*) and heat (e.g., *The furnace is fuming*) might reflect the organizational influence of conceptual structures that are superordinate to either concept. The similarities among these expressions may create comprehension facilitation effects consistent with the conceptual metaphor view, yet the true cause of these effects might be derived from these superordinate structures, rather than the anger or heat concepts themselves.

While the evidence that conventional expressions are understood via conceptual metaphors is scant and problematic, there is some evidence that people can spontaneously construct conceptual mappings to understand novel metaphoric expressions. Noting the failure of previous studies to unequivocally demonstrate the use of metaphoric mappings in conventional language comprehension, Keysar et al. (2000) reasoned that the novelty and explicitness of an expression might "invite" readers to construct such mappings. For example, people probably don't need to use the mapping SAD IS DOWN to understand a conventional expression such as *I'm depressed*, Lakoff's (1993) assertion to the contrary notwithstanding. However, the mapping might well be constructed for a novel

utterance such as *I'm feeling lower than a piece of gum stuck on the bottom of your boots*. The novelty and humor of the statement invite (and perhaps require) the reader to consider a metaphoric mapping between emotional state and elevation. To test this possibility, Keysar et al. presented vignettes to their participants that employed either stock phrases or novel extensions of a conceptual mapping that was relevant to the meaning of a target metaphoric sentence. The following vignette uses stock phrases to encourage construction of the mapping ARGUMENT IS WAR (emphases added):

*An argument follows the conduct of war. Stan and Jake argue whenever they get together. Stan always **strikes first, throwing his rival off balance**. But Jake keeps **his defenses up and shoots down** Stan's arguments. Sirens wail every time they meet.*

In contrast, the version below employs novel ARGUMENT IS WAR expressions:

*An argument follows the conduct of war. Stan and Jake argue whenever they get together. Stan always begins **the siege** by **launching his verbal grenades**. But Jake **keeps his barracks fortified and deliverst a defensive strike**. Sirens wail every time they meet.*

In a reading time task, Keysar et al. found that participants read the target sentence (*Sirens wail every time they meet*) faster following the latter than former vignette version. Since the wording of the stock phrases was no less semantically associated to the target sentence than the novel expressions, this effect cannot be attributed to simple lexical priming. Furthermore, both versions begin with a sentence explicitly equating arguments with war, and so the ostensible applicability of the metaphor to the target passage was made transparent in both versions. Yet only the version with novel expressions appeared to facilitate interpretation of the target sentence.

Keysar et al.'s results support a straightforward claim regarding the role of conceptual metaphors in figurative language comprehension. People can understand stock expressions such as *the argument was shot down* without recourse to conceptual mappings like ARGUMENT IS WAR. Stock expressions appear to be understood in the same way as “frozen metaphors” such as *brake shoe* – directly and literally. In contrast, understanding novel expressions such as *Rush Limbaugh's bloated ego gobbled up his integrity and then used the airwaves as a toilet* might very well involve inferring a conceptual mapping between arrogance and digestion. If you had previously encountered digestion as a metaphor for arrogance (which seems unlikely), then you could have retrieved this mapping, in theory, to understand the expression above. If, on the other hand, you had never encountered this metaphor previously, you had to create the mapping on the fly. As Bowdle and Gentner (2005) have suggested, the processes used to understand any particular metaphoric expression will change as a function of its conventionality. When an expression is completely novel, it will require different kinds of inferential work than when it is familiar. Thus, the conceptual metaphor view fails as an account of figurative language comprehension in part because it does not recognize the important processing differences between conventional and novel expressions.

#### 4. Conclusions

The CM view has been extremely influential in recent communication research and theory. This influence has been invaluable in at least two respects. First, it has drawn much needed scholarly attention to the linguistic codability of abstract concepts

(Kovecses, 2000; McGlone, 2001). While philologists (with the notable exception of Wittgenstein) have traditionally focused on tidy superordinate object concepts like *furniture*, *fruit*, and *vegetable*, CM theorists are among the few who have explored complex concepts like *anger*, *love*, *time*, *theories*, causality, and the like. Perhaps the scholarly debate over metaphoric representation and process claims will lead to more research on these topics. Second, the CM view has generated renewed interest in how language structure might reflect conceptual structure. Although certain episodes (e.g., early explorations of the Whorfian hypothesis) in the history of this research problem have been rather disappointing, it clearly warrants further attention (Lucy, 1992; Gumperz and Levinson, 1996).

Its atmospheric influence notwithstanding, the CM view has not fared well theoretically or empirically. There is an ironic quality to its shortcomings: the view trumpets the importance of metaphor in human cognition, yet its major flaw is a hyper-literal construal of the relationship between metaphoric language and thought. Although the linguistic evidence can support only the limited claim that certain abstract and concrete concepts are thematically parallel (Jackendoff, 1983; McGlone and Harding, 1998), Lakoff asserts that our knowledge of abstract concepts is quite literally subsumed by our knowledge of concrete concepts. A conceptual system arranged in this fashion, however, would seem incapable of generating propositions about abstract concepts with figurative intent. For example, a conceptual system whose knowledge of theories was a subset of building knowledge should assume that theories are not merely metaphoric “buildings,” but literal buildings! Lacking a concept of theories that is representationally independent from that for buildings, the system cannot cogitate about theories in and of themselves, and consequently is incapable of appreciating the literal-metaphorical distinction. This scenario is clearly not a realistic portrayal of the human conceptual system; nevertheless, it is entirely consistent with Lakoff and Johnson’s (1980) assertion that abstract concepts are parasitic on concrete concepts.

Literal-mindedness of this sort also underlies the hypothesized role of conceptual metaphors in figurative language comprehension. Consider the cues that a reader would have to use to recognize the conceptual metaphor relevant to understanding a linguistic metaphor encountered in discourse. To recognize that LOVE IS A JOURNEY is the relevant conceptual metaphor for *Our marriage was a rollercoaster ride*, the reader must construe *rollercoaster ride* as a reference to its literal superordinate category – “journey.” However, the participants in McGlone’s (1996) paraphrase study did not interpret this metaphoric use of *rollercoaster ride* so literally, as evidenced by the paucity of paraphrases that referred to its journey-oriented properties. Rollercoaster rides’ status as “journeys” is, for the most part, irrelevant to this metaphor; their status as “exciting, potentially scary situations” is relevant, and thus the properties of this category figured prominently in participants’ paraphrases. The generalization that follows from this example is that one cannot identify the ground of a metaphor from the literal, taxonomic category of the metaphor vehicle (Stern, 2000; Bortfeld and McGlone, 2001). In some cases, interpreting the vehicle in this way would be bizarre – e.g., *My recent trip to L.A. was a rollercoaster ride*. If *rollercoaster ride* in this statement were to be interpreted as referring simply to “journey,” then one would understand the statement as uninformatively asserting that the trip in question was a journey! Clearly, no one would interpret the statement in such an inane manner. Our interpretation of this and other metaphor vehicles is not limited to their literal category memberships, and more often than not transcends them.

Paradoxically, Lakoff couples this hyper-literal model of metaphor understanding to a hyper-metaphoric construal of literal language. Many expressions that most people would consider literal are treated by CM theorists as metaphorical. For example, Lakoff (1993) argues that the statements *I have troubles* and *I'm in trouble* reflect the conceptual metaphors ATTRIBUTES ARE POSSESSIONS and STATES ARE LOCATIONS, respectively:

“In both cases, trouble is being attributed to me, and in both cases, trouble is metaphorically conceptualized as being in the same place as me (collocation) – in one case, because I possess the trouble-object and in the other case, because I am in the trouble-location” (p. 225).

An alternative to this metaphoric account of the statements' meanings is that words like *have* and *in* are polysemous, capable of referring to physical objects and locations as well as psychological states and attributes. Stern (2000) notes that such expressions lack the element of semantic incongruity that is typical of expressions that have been traditionally described as metaphors. For example, the concepts “love” and “journey” are semantically distinct, even though they share similarities that could conceivably motivate expressions such as *Our love has been an exciting journey*. In contrast, “states” and “locations” are not semantically distinct (i.e., being in a location is literally a type of “state”); consequently, characterizing *I'm in trouble* as metaphorical is not only odd, but paradoxical. Metaphorical expressions are assumed to be understood in terms of their constituents' literal category memberships, yet our knowledge of these literal categories is assumed to be metaphorical at some deep level. By blurring the distinction between the literal and metaphorical, the CM framework becomes incoherent, both as a theory of conceptual structure and as a model of language understanding.

In drawing these pessimistic conclusions about the notion of a “conceptual metaphor,” I do not intend to deny the importance of metaphor in human communication. To the contrary, I concur with linguists who treat the trope as the principal device of lexical innovation (Breal, 1899; Makkai et al., 1995; McGlone et al., 1994). According to this view, metaphors fill lexical “gaps” in discourse by extending existing words to name novel categories and concepts. The cognitive processes underlying the creation and interpretation of these “innovative metaphors” are active and contemplative (McGlone, 1996), not passive and unconscious (Lakoff and Johnson, 1998). I also do not deny that the conventional figurative expressions we use to talk about abstract concepts and emotions cluster around common metaphoric themes like LOVE IS A JOURNEY. The origin of such idioms might very well derive from contemplation of the figurative schemata CM theorists have described. However, etymology is not epistemology, nor is the typical speaker a lexicographer. Thus, I am skeptical when researchers draw inferences about people's attitudes and beliefs based solely on the idioms they use to talk about personal experiences. Most of us harbor no prejudice against the good people of Holland, yet we blithely call a pay-your-own-way lunch a *Dutch treat* and a small roasting pot a *Dutch oven*, unaware that these expressions originated as ethnic slurs (Feldman, 1990). Analogously, it is presumptuous to infer that a spouse who confesses that she has “fallen out of love” with her partner has mentally invoked (let alone embraced) the schema RELATIONSHIPS ARE CONTAINERS. Evidence independent from the mere occurrence of idioms in conversation is necessary to demonstrate the conscious or unconscious deployment of a conceptual metaphor. Although metaphors in discourse sometimes seem to stick out like a sore thumb, metaphors in the mind are far harder to find.

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