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Figurative Language and Persuasion

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Public discourse is rife with figurative comparisons designed to change people's minds. Metaphor is the typical trope of comparison in such messages, although use of other nonliteral comparisons such as similes, analogies, and personifications is also common. Despite this widespread use, do we know whether figurative comparisons in persuasive message are really effective? And if so, what is the process by which they achieve their impact? This chapter reviews possible answers to these two questions. After providing some background, we start by summarizing what is known about effect of metaphor on attitude and communicator credibility, sketch out relevant theories of metaphor comprehension, evaluate different views of metaphor and persuasion, and finally make suggestions for future research.

TERMINOLOGY AND SCOPE

A metaphor is customarily defined as a linguistic phrase of the form "A is B," such that a comparison is suggested between the two terms leading to a transfer of attributes associated with B to A. For example, "The global marketplace is a dictatorship" (from a flyer advertising a protest march) consists of two parts, A (global marketplace) and B (dictatorship), such that there is a comparison between A and B and properties associated with dictatorship are transferred to global marketplace. The two terms, A and B, are seen as representing different concepts or conceptual domains, and various theorists have used different terminology to describe the two parts. The more recent use is *target* and *base* (e.g., Gentner, 1983) for A and B, respectively.

Simile, analogy, and personification, albeit different in some surface respects, cognitively function similar to metaphor in that all three also involve comparison of concepts or systems of concepts.[1] Hence, their study is generally subsumed into that of metaphor. Accordingly, in this chapter, we use *metaphor* as a general term to refer to all tropes of comparison.

Usually the word *metaphor* is used to denote, as above, a particular language device or a characteristic of language, what Lakoff and Johnson (1980) called *linguistic metaphor.* In this sense, metaphor is a rhetorical property that is observed in spoken or written language. However, the term *metaphor* is also used in two other ways: as a cognitive process and as a cognitive structure. In the first instance, metaphor is a conceptual process by which one mental entity is understood via mapping to another mental entity. This is commonly referred to as metaphorical processing or reasoning. In the second instance, metaphor is a structure inherent in mental entities that come about as a consequence of a cognitive mapping process. Lakoff and Johnson (1980) referred to such metaphorically structured concepts as *conceptual metaphors.* This chapter employs the term *metaphor* in all three senses; and distinguishes among them wherever necessary.

Among linguistic metaphors, a distinction is usually made between novel and conventionalized (Lakoff & Johnson, 1980) or "dead" (Black, 1962) metaphors. Novel metaphors, sometimes inaccurately conflated with metaphor itself, are expressions whose equation of target with a base creates new information about the target. For example, the expression "This new legislation is no ordinary headache pill" provides novel information about the new legislation. Conventionalized metaphors (also called "frozen" metaphors) are figurative comparisons that were once novel but with repeated use have been completely absorbed into the conventions of everyday language (e.g., "the *arm* of a chair," "time just *flew* by"). Such metaphors are not immediately recognized as metaphors.

Natural language is so infused with conventionalized metaphors that it is hard to make any meaningful distinction between metaphorical and literal language. Similarly, most studies of metaphor comprehension conclude that the same cognitive machinery is most likely used for processing both figurative and literal language (Gibbs, 1994). However, a metaphor-literal distinction may be apparent in the process of language interpretation at a neurological level. In their review of the neurocognitive mechanisms underlying comprehension of metaphor and other figurative language, Burgess and Chiarello (1996) concluded that a right hemisphere advantage exists for figurative language over literal language. For example, studies using positron emission tomography to investigate brain functioning associated with language processing (e.g., Bottini et al., 1994) show that processing of novel metaphorical language may make a much heavier use of the right cerebral hemisphere, unlike literal language, which tends to use left and right brain neural assemblies equally. Thus, some type of a processing discrimination (as yet empirically unknown) may be reasonably made between metaphorical and literal language. Accordingly, it may be proper to study message (or language) effects on attitudes using a metaphor-literal distinction.

METAPHOR EFFECTS ON ATTITUDE AND COMMUNICATOR CREDIBILITY

Do metaphor-using messages exert a greater effect on attitude and communicator credibility than do literal messages? Sopory and Dillard (in press) provided an answer to this question in their meta-analytic review of the empirical literature on metaphor and persuasion. The main results of their meta-analysis are summarized briefly in what follows as nine propositions about the effects of metaphor.

Effect of Metaphor on Attitude

A total of 29 data-based studies with a metaphor versus literal experimental design and attitude as the dependent variable were used in the meta-analysis. These studies yielded 38 metaphor-literal comparison data points for the effect size (r) with approximately 4,000 participants. Also, a number of moderator variables of interest were identified in the studies based on their potential for influencing the persuasion process, including number of metaphors, extendedness of metaphors, position of metaphors, familiarity of target, novelty of metaphors, modality of presentation, and communicator credibility.

Proposition 1: Relative to their literal counterparts, metaphorical messages are more likely to produce greater attitude change. The results of the meta-analysis clearly revealed that metaphor-using messages do exhibit a small persuasive edge over literal-only messages for attitude change (r = .07). This relationship was positive across all moderator variable conditions except 2. In other words, the meta-analysis uncovered only 2 conditions (out of 14) in which the use of metaphor may be detrimental to the goal of generating agreement with the message advocacy. Thus, the positive effect of metaphor on attitude seems to be a reliable one.

The small effect size found here is not unlike the magnitude of effects obtained meta-analytically for other message variables in persuasion research. For example, a two-sided message containing refutation of counterarguments is superior to a one-sided message by roughly the same effect size of .07 (Allen, 1998). Similarly, Dillard (1998), after perusing effect sizes for nine different persuasion meta-analyses, observed that all were less than .30 and that their mean was only .18, which may be considered to be on the small side by Cohen's (1987) criteria. Hence, the effect of metaphor on attitude is in the same order as other observed effects in persuasion research. Moreover, the effect of metaphor becomes more pronounced when particular moderator variables are taken into account, as the results that follow show.

Proposition 2: Use of 1 metaphor is associated with greater attitude change than is use of larger numbers. A metaphor-using persuasive message may contain any number of metaphors. In the message pool collated from the different studies, three ranges of metaphor use were identified: 1, 2 to 8, and 9 or more. The effect sizes from the meta-analysis showed that it was 1 metaphor that was associated with maximum attitude change (r = .08) as compared to the 2 to 8 (r = .06) and 9 or more (r = .02) ranges. Thus, less may be more when it comes to using figurative comparisons in a persuasive message, as there is a decreasing suasory effect with increasing number.

Proposition 3: Extended metaphors are associated with greater attitude change than are nonextended metaphors. Metaphors may be extended or nonextended. An extended metaphor uses one base to construct a number of different sub-metaphors with the same target. As seen on a flyer, for example, the base *dictatorship* may be used for the following metaphors, all with the target *global marketplace:* "The dictatorship of the global marketplace has set up a framework of rules that citizens have not voted for," ". . . in the name of the good of the citizenry, unaccountable despotic power given to corporations and elites . . .," and ". . . global marketplace . . . conspiring to chain dissenters in the dungeons of media non-access." A nonextended metaphor, by contrast, uses a given base only once to suggest a comparison with a target.

The effect sizes from the meta-analysis showed that extended metaphors (r = .09)

were associated with greater attitude change than were nonextended metaphors ($r = .05$). Thus, a message intending to use multiple metaphors to affect attitude may be better off using the same base repeatedly than using many distinct bases.

Proposition 4: Metaphors are associated with greater attitude change when positioned in the introduction of a message, rather than in the conclusion or the body of the message. A metaphor may be placed in the introduction, body (i.e., middle), or conclusion of a message. The effect sizes from the meta-analysis showed that metaphors were more persuasive when placed in the introduction ($r = .12$) than when placed in the body ($r = .07$) or the conclusion ($r = -.01$) of a message. Similarly, in the case of a message with multiple metaphors, a trope may first appear in the message in either the introduction, the body, or the conclusion of the message. Results for "first appearance in introduction" and for "first appearance in body or conclusion" also showed a similar pattern. Thus, using a metaphor to provide a title to a message or to frame a message at the beginning may be more persuasive than using it to summarize the message.

Proposition 5: Metaphors are associated with greater attitude change when there is high familiarity of the target than when there is low familiarity. The target and base of a metaphor may have varying degrees of familiarity for a message recipient. To facilitate transfer of information from base to target (as a metaphor does), the familiarity of the base is generally high. By contrast, the target term of a metaphor (typically the attitude object) may be familiar or unfamiliar to an audience of a particular message. For example, "Aid to Colombia is like . . ." is a low-knowledge target for North American undergraduate audiences, while "Seat belt use is like . . ." is most likely a high-knowledge target. The effect sizes from the meta-analysis showed that metaphors were more persuasive when there was high familiarity of the target ($r = .07$) than when there was low familiarity ($r = .06$). Thus, having more, rather than less, familiarity with the target of a metaphor may foster enhanced persuasion.

Proposition 6: Metaphors are associated with greater attitude change when more novel than when less novel. Novelty of a metaphor for a given message recipient may be defined in terms of knowledge of the similarities between the two terms of a metaphor.[2] That is, novelty of an "A is B" equation depends on whether the similarities between A and B exist in the minds of a message recipient prior to encountering the metaphor. For example, the common saying, "She has a heart of gold," is of low novelty because the correspondences between the base and target already exist in the minds of people prior to the reception. On the other hand, the stanza from a classical Sanskrit poem, "Now the great cloud cat, darting out his lightning tongue, licks the creamy moonlight from the saucepan of the sky" (Ingalls, 1968, p. 104), will be of high novelty because (most likely) the similarities between *cloud* and *cat* do not exist for readers prior to comprehending this metaphor. It should be emphasized that the focus is on the familiarity of the similarities between the terms and not the familiarity of the target and base themselves per se. For example, people may be highly familiar with the terms *cloud* and *cat,* but the similarities between the two might not exist in their minds prior to encountering the metaphoric expression.

The effect sizes from the meta-analysis showed that novel metaphors ($r = .12$) were associated with more attitude change than were non-novel ones ($r = .01$). Thus, metaphors that create new similarities between entities, as their function has been tradition-

ally described, may be more persuasive than ones that do not produce such new linkages.

Proposition 7: Metaphors in the audio modality are associated with greater attitude change than are metaphors in the written modality. People encounter persuasive messages through different media such as print, radio, and television. The effect sizes from the meta-analysis revealed that metaphors presented in the audio modality were more persuasive (r = .09) than those presented in the written modality (r = .06). Thus, metaphor-using messages may be more effective when listening, when one can process a message only once in a limited amount of time, than when reading, which allows for more processing time as well as multiple reviews of the message.

Proposition 8: Metaphor messages used by low-credibility communicators are associated with greater attitude change than those used by high-credibility communicators. Message recipients may perceive communicators as having low or high credibility prior to processing a message. The effect sizes from the meta-analysis showed that messages containing metaphors were associated with greater attitude change when the communicators had low credibility (r = .12) than when the communicators had high credibility (r = .02). Thus, message sources with low credibility may benefit more from using metaphors to affect attitudes than may message sources with high credibility.

Effect of Metaphor on Communicator Competence, Character, and Dynamism Judgments

Perceptions of credibility of a communicator can be determined at two points during message processing: pre-message, or before the audience members process a message (initial credibility), and post-message, or after the receivers process the message (terminal credibility). Metaphor's persuasive effects can also be assessed in terms of its impact on judgments of terminal credibility.

Many writers have asserted that communicators who use metaphorical language are judged more favorably than those who use literal language (e.g., Aristotle, 1952; Bowers & Osborn, 1966; McCroskey & Combs, 1969; Osborn & Ehninger, 1962). However, credibility is not a unitary construct (Berlo, Lemert, & Mertz, 1969; McCroskey & Young, 1981), and there are a number of subcomponents of credibility, with the three most common being competence, character, and dynamism.[3] For the credibility meta-analysis, 12 data-based studies with a metaphor versus literal experimental design and at least one of these three credibility aspects as the dependent variable were used. These studies yielded 20 metaphor-literal comparison data points for the effect size (r) with approximately 2,000 participants.

Proposition 9: Metaphors are more likely to be effective for enhancing terminal communicator credibility judgments for the dynamism aspect than for competence and character aspects. Of the three post-message credibility facets, the effect of metaphor was functionally nonexistent for character and competence aspects. For the *competence* aspect of credibility, the effect size r was –.01. Analysis of the moderator variable of initial (low and high) credibility showed the same null results. Similarly, there was no effect of metaphor on the *character* aspect of credibility (r = –.02). For both low and high initial credibility communicators, use of metaphors again did not affect character judgments. On the other hand, the r for *dynamism* was .06. Furthermore, the effect for both low- and high-credibility com-

municators was positive. Thus, of the three facets of terminal credibility, metaphor has its strongest effect on judgments of communicator dynamism.

THEORIES OF METAPHOR COMPREHENSION

Several answers have been proposed to the question of how metaphor may achieve its persuasive effects. To help explicate and evaluate these varied explanations, the theories dealing with metaphor comprehension need to be presented first. There are many views of how metaphor is understood. The four that have been used to theorize about metaphor and persuasion are summarized in what follows.[4]

The *literal primacy* view (Beardsley, 1962, 1976; MacCormac, 1985; Searle, 1979) sees metaphor as literally false or logically contradictory language, that is, a semantic anomaly. According to this view, there are three stages in the process of understanding a metaphorical expression: (a) deriving the literal meaning of the expression, (b) testing whether the literal meaning makes sense and consequently detecting an anomaly, and then (c) seeking an alternative meaning (i.e., the metaphorical meaning) because the literal meaning fails to make sense (for an elaborated discussion, see Gibbs, 1994). According to one variation of this view (e.g., MacCormac, 1985), when an interpreter confronts a semantic anomaly, cognitive tension is generated along with a desire to reduce it. By finding the nonliteral meaning of the literally false statement, the anomaly is resolved and the tension is dissipated.

While the literal primacy view treats metaphorical language as semantically deviant and exceptional, the next three positions reject the notion of metaphor as anomalous language. These theories assume that metaphoricity and literalness of language is a matter of degree and that the same general psychological mechanism underlies processing of both forms of language.

Ortony's (1979, 1993; see also Ortony, Vondruska, Foss, & Jones, 1985) *salience imbalance* theory uses the notion of salience of attributes to explain how metaphors are comprehended. Salience is defined empirically as the relative importance of an attribute; that is, the first attribute that comes to mind is the most salient, and so on. The theory says that a metaphorical expression of the type "A is B" is understood by constructing the ground (i.e., the set of shared attributes) by selecting only those attributes that have low salience for the target and high salience for the base. For example, the metaphor "Encyclopedias are gold mines" is understood by choosing for the ground attributes such as *valuable nuggets* and *dig,* which have a high salience for gold mines and a low salience for encyclopedias. If the two terms are reversed (i.e., "Gold mines are encyclopedias"), then a different set of the shared attributes would be chosen; because the attributes that would be highly salient for encyclopedias would be different.

Gentner's (1982, 1983, 1989; see also Gentner & Clement, 1988) *structure mapping* theory, using an associative network model of memory, proposes that instead of comparing lists of attributes, the relations among the attributes are compared for similarities to interpret a metaphor. Gentner (1983) linked metaphor explicitly to analogy and defined a metaphor as "an assertion that a relational structure that normally applies in one domain can be applied in another domain" (p. 156). This view posits that metaphors convey a system of connected knowledge, not a mere collection of independent facts. In interpreting a metaphor, people attempt to obtain a match between target and base by seeking a relational mapping. For example, the metaphor "Encyclopedias are gold mines" is interpreted by noting the common relation *valuable nug-*

gets found by digging rather than the independent similar attributes *valuable nuggets* and *dig*.

The *conceptual structure* theory (Johnson, 1987; Lakoff, 1987, 1993; Lakoff & Turner, 1989; see also Albritton, McKoon, & Gerrig, 1995; Gibbs, 1994) considers metaphor as a thought process and defines it as "understanding and experiencing one kind of thing or experience in terms of another" (Lakoff & Johnson, 1980, p. 5). As a result of this metaphorical processing, long-term memory is organized as a system of metaphorical correspondences or mappings between different domains of experiences. These mappings are called conceptual metaphors. For example, the conceptual metaphor "Relationship is a journey" is a label for the mappings that exist in the long-term memory between the domains of *relationship* and *journey*. The conceptual system contains thousands of such correspondences among different domains that are used to produce and understand both conventional and novel metaphorical statements. For example, the expressions "Our relationship is *on the right track*," "We seem to be *stuck and going nowhere*," and "When did you *end* the relationship?" are conventional metaphors in which the domain of *relationship* is compared to the domain of *journey*. All of these expressions are understood via the conceptual metaphor "Relationship is a journey." Novel metaphorical expressions are understood by extending these preexisting conceptual metaphors through patterns of inferences authorized by them. For example, the novel metaphor "Hope their space shuttle doesn't blow up on launch" is understood by generalizing the existing mappings of "Relationship is a land journey" as a pattern of inferences to *space journeys*.

The preceding four theories of metaphor comprehension have been directly employed to derive different explanations of metaphor's persuasive impact. These metaphor and persuasion theories are examined next.

THEORIES OF METAPHOR AND PERSUASION

How does metaphor achieve its suasory outcomes? There are five general views of metaphor and persuasion available in the existing empirical literature that try to explain this process: pleasure/relief, communicator credibility, cognitive resources, stimulated elaboration, and superior organization. These views are evaluated next based on the results of the Sopory and Dillard (in press) meta-analysis and evidence from other relevant research.

Pleasure/Relief

The pleasure/relief view (e.g., Bowers & Osborn, 1966; Reinsch, 1971, 1974; Tudman, 1971) stems from the assumptions of the literal primacy view (e.g., Beardsley, 1962, 1967, 1976). There are two variants of this explanation, both arguing that a metaphorical expression is a semantic anomaly, recognition of which leads to negative tension that gets relieved when the metaphorical meaning is finally understood. In the persuasion literature, these three steps are called *perception of defect/error*, *conflict* (or *recoil*), and *resolution*. In the first variant, finding the metaphorical meaning, and thus the "unexpected similarities" between the target and base, is pleasurable. According to the second variant, finding the metaphorical meaning dissipates the negative tension, leading to relief. The reward of pleasure and relief leads to a reinforcement of the metaphorical meaning and the evaluation associated with it. By contrast, literal language does not pose any linguistic

puzzle to resolve and consequently yields neither pleasure nor relief.

The data from the meta-analysis did not speak directly to the reinforcement principle of the pleasure/relief view. However, the assumptions of literal primacy theory that underlie this view are disputed by the results of the moderator analysis for modality of presentation. The literal primacy view suggests that the literal meaning of an expression is obligatorily understood before the metaphorical meaning is understood. As such, the comprehension of a metaphor should take longer than the comprehension of (equivalent) literal language. This should be an advantage for written modality by ensuring that cognizers have enough time to comprehend a message and, at the same time, depressing the likelihood of pleasure/relief in the audio modality. The results showed that audio modality was more persuasive, contradicting the prediction from the literal primacy view. In addition, Hoffman and Kemper (1987), after a review of reaction time studies, concluded that idioms, indirect requests, metaphors, and proverbs (i.e., different types of figurative language) did not take longer to be understood than did literal language. In fact, their review showed that some metaphors in the proper discourse context were processed faster than their literal counterparts in the same discourse context.

The assumption of the pleasure/relief view that metaphor represents defective language such that a prior step to understanding metaphorical meaning is identification of a defect is also untenable. Research shows that people draw metaphorical meanings out of metaphorical statements long before they judge such expressions anomalous in any way (McCabe, 1983). The perception of error and tension steps may perhaps be fruitfully resurrected in terms of expectancy violations of linguistic conventions (Nelson & Hitchon, 1999; see also Burgoon & Miller, 1985), but the process of persuasion suggested in the pleasure/relief model remains based on an incorrect understanding of the nature of metaphor and the process of metaphor comprehension. Therefore, the pleasure/relief view of metaphor's persuasive advantage does not have any empirical support.

Communicator Credibility

The enhancement of communicator credibility view (e.g., Bowers & Osborn, 1966; McCroskey & Combs, 1969; Osborn & Ehninger, 1962; Reinsch, 1971) proposes that communicators who use metaphors are judged more credible than are those who use literal language. In turn, this enhanced source judgment leads to greater persuasion by making the attitude towards the message advocacy more positive. This higher credibility judgment may occur for two related reasons. First, as Aristotle (1952), in his *Poetics,* argued, "But the greatest thing by far is to be a master of metaphor. It is the one thing that cannot be learnt from others; and it is also a sign of genius" (p. 255). The assumption of this view is that metaphors are exceptional language and are like "ornaments" on the literal language that are used only by poets and writers, not by ordinary folks in everyday discourse. Thus, people who use metaphors are perceived as highly creative and are judged quite positively. The second reason (e.g., Bowers & Osborn, 1966; Osborn & Ehninger, 1962) is derived from metaphor's ability to point out previously unknown similarities between entities to a person. This newfound appreciation of commonalties is a source of interest and pleasure to the comprehender, who consequently is grateful to the message source, leading to enhanced judgment of communicator credibility. In contemporary terms, the key idea of the communicator credibility view is that the source judgment may act as a persua-

sion heuristic (Chaiken, Liberman, & Eagly, 1989).

The communicator credibility explanation was clearly not supported by the results of the meta-analysis, which showed that on the whole, people do not judge metaphor-using communicators more favorably than they do those who use literal language. Another line of research on effects of *rebuttal analogy* on receiver perceptions of communicators and message arguments corroborates this finding (Whaley, 1997, 1998; Whaley, Nicotera, & Samter, 1998). A rebuttal analogy serves two communicative functions: as a method of counterargumentation and as a method of social attack. Communicators who use such analogies are perceived as less polite, less ethical, and less competent, and their arguments are seen as less ethical and less effective than those of sources who use nonanalogy messages. Thus, the view that use of metaphor prompts a positive source heuristic to be engaged, leading to greater persuasion, is not the right explanation.

The assumption that metaphor is "exceptional language" is also not defensible. Metaphors are not mere ornaments on literal language used only by poets and writers; rather, they are common in everyday language. For example, Pollio, Barlow, Fine, and Pollio (1977), after examining various psychotherapeutic interviews, essays, and the Kennedy-Nixon presidential debates, estimated that 1.80 novel metaphors and 4.08 dead metaphors were used per minute of discourse. Another study looking at use of metaphors in news and public affairs programs found that one novel metaphor was used for every 25 words (Graesser, Mio, & Millis, 1989). Thus, use of metaphor does not seem to require any special genius, and as such, there is little reason to expect its use to enhance credibility, at least as related to expertise and character, of a communicator.

Cognitive Resources

Two views of metaphor and persuasion employ the assumption that understanding metaphors demands more cognitive resources than does understanding literal language. According to the *reduced counterarguments* view (Guthrie, 1972), the process of metaphor comprehension generates a great number of associations that result in "an overload in the receiver's mental circuitry" (p. 4). As a result, a high proportion of the cognitive resources of a comprehender are used up when encountering a metaphorical persuasive message, and consequently (assuming a counterattitudinal message) fewer resources are left to "derogate or exclude the message content or the source" (p. 4). The outcome is reduced counterargumentation and greater agreement with the message advocacy.

A more sophisticated version is the *resource matching* view (Jaffe, 1988). This perspective proposes that deriving meaning of a metaphorical expression requires elaboration to construct the ground (Ortony, 1979, 1993), which ensures better memory for (high-quality) message arguments and hence improved comprehension, leading to greater persuasion relative to a literal message. However, elaboration also requires greater mobilization of cognitive resources. If there is a match between the high cognitive resources required to understand the metaphorical message and the cognitive resources available to an interpreter, then maximum elaboration and thus maximum comprehension occurs; if there is a mismatch, then less comprehension occurs. Thus, if limited resources are available, then the message (whether pro- or counterattitudinal) is not adequately understood and persuasion is inhibited; similarly, the persuasive impact of a message is diluted when excess resources are available (e.g., for clichéd expressions) because irrelevant and idiosyncratic thoughts are generated. In this

view, then, novel metaphorical messages have a persuasive advantage over literal messages only under resource-enhanced conditions, such as message repetition, where the knowledge generated by repetition ensures a match of resources to the requirements of a metaphorical message but leads to excess resources for a literal message.

Cognitive resource or effort was not indexed in any of the studies included in the meta-analysis, so the question of whether metaphors require more resources than do literal messages cannot be answered directly from its results. However, other findings run counter to the claims of the resource matching explanation. According to this view, metaphors should be persuasive only under resource-enhancing conditions such as message repetition. Contradicting this, all experiments in the meta-analysis presented messages only once, and the results do show that metaphors led to more attitude change than did literal language. Along the same lines, the greater amount of time spent processing a message in the written modality may be seen as enhancing cognitive resources facilitating resource matching. However, it was the audio modality, which allows only a single pass through a message, that was more persuasive. Similarly, evidence based on reaction time studies discussed earlier suggests that understanding metaphors does not demand greater cognitive resources than does understanding literal language. Furthermore, studies that have compared metaphor and literal processing using indexes of cognitive effort, such as eye movement tracking and gaze duration (Inhoff, Lima, & Carroll, 1984) and speech pauses (Pollio, Fabrizi, & Weedle, 1982), have also found that understanding metaphors requires no more effort than does understanding literal language when appropriate contextual information is provided. Therefore, given the outcomes of the meta-analysis and other relevant research, these two cognitive resources views are not the ideal candidates for a theoretical explanation of metaphor's persuasive effects.

Stimulated Elaboration

The stimulated elaboration view is linked to two different metaphor processing theories. Hitchon (1991), using concepts of salience imbalance theory (Ortony, 1979, 1993), proposed that when the ground is assembled from the common attributes of target and base to comprehend a metaphor, the evaluation (valence) associated with the attributes is also part of the ground. In her view, formation of the ground requires elaboration of the ground-relevant attributes as well as their associated valence. Thus, elaboration leads to a greater number of valenced thoughts, which (when in the appropriate direction) lead to greater persuasion. By contrast, extracting the meaning of a literal expression does not require constructing a ground and hence elaboration of the message content.

Whaley (1991) used structure mapping theory (Gentner, 1982, 1989) to propose that understanding analogies stimulates thought through a focus on similar target-base relations (rather than attributes) and hence the evoking of a richer set of associations in semantic memory compared to literal language. This greater number of semantic connections produces greater elaboration of message content, which in turn leads to increased persuasion given suitable processing conditions. Whaley proposed that certain types of analogies (explanatory analogies [Gentner, 1982]) function as high-quality arguments, so their processing results in more elaboration than do literal messages. Then, if both motivation and ability are high and the message is compelling, the outcome is a greater number

of thoughts agreeing with message advocacy and thus greater persuasion (Chaiken et al., 1989; Petty & Cacioppo, 1986).

The key variable in the stimulated elaboration account is the number of thoughts generated in response to a metaphorical language message as compared to a literal one. Studies investigating metaphor's persuasive effects that have measured this type of elaboration (Hitchon, 1991; Mitchell, Badzinski, & Pawlowski, 1994; Morgan, 1997; Sopory, 1999; Whaley, 1991) have not found that metaphorical language results in a greater number of cognitive responses than does literal language.

However, it may be the case that elaboration is influenced by other variables in tandem with type of language. This idea is developed as a more refined version of the stimulated elaboration hypothesis in the *motivational resonance* view (Ottati, Rhoads, & Graesser, 1999). Using the dual-process approach to persuasion (Chaiken et al., 1989; Petty & Cacioppo, 1986), this view proposes that metaphorical language creates greater interest in a message than does literal language, thereby increasing motivation to more systematically process the message. This motivation to elaborate the message content is moderated by argument strength/quality and prior interest toward the metaphor target. When the quality of message arguments is high and message recipients have a positive interest toward the metaphor target, such that the metaphor "resonates" with their prior preferences, maximum elaboration and hence greatest suasion occurs. Results of two studies (Ottati et al., 1999) largely confirmed this prediction as a condition for enhanced metaphor impact.

It may also be the case that linguistic metaphor does facilitate more thinking but that this thinking is not propositional (i.e., linguistic). For example, Coulson and Oakley (in press) used the theory of conceptual blending (Fauconnier, 1994; Fauconnier & Turner, 1998) to contend that comprehension of persuasive messages does require elaboration, but they conceived of elaboration in terms of mental simulation of the situation being described by the message content. Similarly, Paivio and Walsh (1993; see also Lakoff, 1993) pointed out that many linguistic metaphors may use more imagistic than linguistic processing. Along the same lines, Zaltman's metaphor elicitation technique (Zaltman & Coulter, 1995; Zaltman & Higie, 1993) also suggests that metaphorical thinking may engage substantial image-based processes. This research technique successfully assesses customers' metaphoric representations of products and consumer services using selection and arrangement of pictures and images, that is, via primarily nonlinguistic measures. Thus, the number of linguistic expressions might not be the only processual variable indexing elaboration as an explanation of metaphor's greater persuasive capacity.

Superior Organization

The superior organization view (Read, Cesa, Jones, & Collins, 1990), also derived from Gentner's (1982, 1989) structure mapping theory, proposes that a metaphor helps to better structure and organize the arguments of a persuasive message relative to literal language. A metaphor evokes a greater number of semantic associations, and the different arguments, when consistent with the metaphor, get connected together more coherently via the many available semantic pathways. In addition, the links to the metaphor "highlight" the arguments making them more salient. Consequently, this more coherent organization, and the resulting highlighting of the arguments, increases the persuasive power of metaphor-

using messages. Literal-only messages lack this organizing function of metaphor and therefore are not as persuasive.

Results of the meta-analysis point to direct support for the superior organization view only. Metaphors were most persuasive when extended and when placed in the introduction position of a message. This suggests that persuasion occurred due to the organizing potential of metaphor as theme, which facilitated selection and integration of information from the message and prior knowledge. The results also showed that a single metaphor was more persuasive than greater numbers of metaphors. As the superior organization view implies, it is only a single metaphor that should provide the optimal opportunity for enhanced organization of the message information. Similarly, the persuasive superiority of metaphors with high knowledge of target over low-knowledge ones suggests that higher prior knowledge allowed recipients to better organize the target-base linkages. Therefore, the meta-analytic results favor superior organization's explanation of how metaphor may be more persuasive than literal language.

The *structural consistency* view (Sopory, 1999) adopts the superior organization view's insight but proposes a different account of how metaphor-using messages may lead to increased organization of information. Using the conceptual structure theory (Lakoff, 1987, 1993), this view claims that it is the emergent structural match between linguistic and conceptual metaphor during message processing that organizes the information. A unique property of this coherent information set is that it manifests high evaluative consistency of cognitive-affective-behavioral information available for attitude construction (i.e., high intra-attitudinal structural consistency), which in turn makes it more likely that receivers show enhanced attitude change in the desired direction with metaphorical messages than with literal ones. Results of two studies (Sopory, 1999) provided moderate support for this view. Thus, metaphor may persuade not only by linking various arguments of a message into a coherent whole but also by organizing the attitude-relevant information into an evaluatively consistent package.

Other Metaphor and Persuasion Views

Research on effects of language intensity and message vividness on attitude has attempted to subsume metaphor under these two types of language variables. The metaphor and persuasion meta-analysis speaks directly to both views.

Metaphor as Intense Language. The empirical tradition of metaphor and persuasion originated with metaphor conceptualized as a form of intense language. *Language intensity* is defined as "the quality of language which indicates the degree to which the speaker's attitude toward a concept deviates from neutrality" (Bowers, 1963, p. 345; for an updated version, see Hamilton & Stewart, 1993). Based on the principle of reinforcement, Bowers (1963) proposed that such intense language messages should be more persuasive than nonintense ones and went on (Bowers, 1964) to distinguish four features of intense language: number of syllables, obscure words, qualifiers and intensifiers, and metaphors. Subsequent research (Bowers & Osborn, 1966; Reinsch, 1971; Siltanen, 1981) found that metaphors did behave as intense language and led to more persuasion than did literal language.

However, one of the key predictions of the language intensity view is that intense language either decreases the impact of or has no effect on attitude for low initial credibility sources (Hamilton & Hunter, 1998; see also, Burgoon, 1989). A meta-analytic model of

language intensity effects on attitude (Hamilton & Hunter, 1998) largely confirmed this prediction. The results of the metaphor meta-analysis, by contrast, present an opposite pattern: Use of metaphor was more beneficial for communicators with low initial credibility than with high initial credibility. On the other hand, the finding of the language intensity meta-analysis that high-intensity language directly increases perceptions of communicator dynamism only, and not competence and trustworthiness, is in accord with the results of the metaphor meta-analysis, which showed a positive effect on the dynamism facet of credibility only. Overall, then, despite certain processing differences, intense and metaphorical language may bear some similarity in how they exert their suasory power.

Metaphor as Vivid Language. Metaphorical language has also been conceived of as a type of vivid language (Frey & Eagly, 1993; Mitchell et al., 1994). Nisbett and Ross (1980) defined vividness as information that is "(a) emotionally interesting, (b) concrete and imagery-provoking, and (c) proximate in a sensory, temporal, or spatial way" (p. 45). Vivid language has been operationalized in a variety of ways, and even then its effects on attitude have been generally hard to discover (Collins, Taylor, Wood, & Thompson, 1988; Taylor & Thompson, 1982). Frey and Eagly (1993) conceptualized vivid language to include "provocative metaphors" and found that vivid messages were not more persuasive than pallid ones, both when the participants' attentional focus on the message was high and when it was low. They interpreted the results in terms of vividness as a *distraction/interference,* especially for "complex messages . . . that contain a number of arguments that are logically related by virtue of their all being linked to a general position" (p. 41). The studies in the metaphor meta-analysis data set were characterized by high attentional focus, and many of the messages were fairly complex. The results still showed that metaphorical messages were more persuasive than literal ones. Furthermore, there was little support for the view that metaphors consume cognitive resources (which can be as seen as similar to the interference explanation), but there was strong support for the claim that metaphors contribute to message organization and comprehension. Thus, metaphor may not function similar to vivid language as distraction because this explanation cannot account for the trope's persuasive effects.

FUTURE RESEARCH

There are a number of productive avenues for future research on metaphor and persuasion. New studies should build on past research to more clearly delineate conditions that enhance effectiveness of metaphors and the process(es) of these effects. Future investigations should also look at new lines of research regarding pictorial metaphor and the role of metaphor in development of attitudes.

Conditions of Metaphor Effectiveness

The metaphor and persuasion meta-analysis identified a number of variables that allow us to differentiate effective from ineffective conditions for metaphor use, and future research should continue their testing. Recent research points to six additional factors that may have bearing on metaphor's persuasive potential. *Literal-mindedness* (Morgan, 1997), an individual differences variable, is defined as the ability to understand figurative language. Metaphorical messages are more persuasive with people who are low on literal-mindedness because they find it easy to understand figurative language. The *metaphor extension hypothesis* (Mio, 1996) proposes that, in a debate-

type situation, a metaphor is more effective when it builds on and extends the opponent's metaphor. A retort that uses a new metaphor or is literal is relatively ineffective as a persuasive tactic. Novel *synesthetic metaphors* may be particularly potent for persuasion (Nelson & Hitchon, 1995, 1999). Synesthesia is a neurological process whereby perceptions from one sensory modality are mapped onto perceptions from another modality, and utterances based on these cross-sensory mappings (e.g., auditory-visual as in "loud red") are called synesthetic metaphors (Cytowic, 1989; Marks, 1982). Message recipients' positive *prior involvement* (Johnson & Eagly, 1989) with the attitude objects may also contribute to the increased impact of metaphors (Ottati et al., 1999). Besides attitude, metaphor may be equally effective in successfully shaping other desired persuasion outcomes, such as *behavior change* (Mio, Thompson, & Givens, 1993) and *agreement with implications* of the metaphor (Bosman, 1987; Bosman & Hagendoorn, 1991). Future research should investigate all of these factors to develop a model of the conditions under which metaphor can have maximum persuasive effect.

Process of Metaphor Effects

Future research should concentrate on determining a more precise specification of the mechanism by which metaphor exerts its suasory effect. Of the different metaphor and persuasion theories, the superior organization view holds the greatest promise in this regard. New research can compare this view to other plausible explanations of the process and establish which one has the most accurate descriptive and predictive power.

Alternatively, future research can also attempt to integrate compatible metaphor and persuasion theories into a single framework. For example, McGuire's (1972, 1985) view that the persuasion process requires at least two sequential information processing components, reception and yielding, can furnish such a framework. In this model, reception of a message consists of two substeps, attention and comprehension; to make a judgment about yielding to the message advocacy, the information available after the comprehension stage is used. It may be that the presence of a metaphor in a persuasive message, under proper processing conditions, affects the perception of communicator dynamism (communicator credibility view), leading to improved attention to the message arguments. After helping to focus attention onto the message content, the metaphor may next aid its comprehension by encouraging relevant thinking (stimulated elaboration view) and by organizing the available information (superior organization view). In turn, this more detailed and organized information may make it more likely that the message advocacy will be accepted. A comprehensive multiple-process framework of this sort may be better able to explain and systematically predict the persuasive effects of metaphorical language under different conditions.

Pictorial Metaphors

Pictures and images can also assert the "A is B" equation and thus be metaphorical in their meaning (Forceville, 1996; Indurkhya, 1992; Kennedy, 1982; Whittock, 1990). Although images are ubiquitous in and integral to advertising (Leiss, Kline, & Jhally, 1986; Messaris, 1997), there is a paucity of studies on the use of pictorial (or visual) metaphors in persuasive messages (for an exception, see Mcquarrie & Mick, 1999). One reason for this lack of research may be the difficulty in deciding whether pictorial metaphors function simi-

larly to linguistic metaphors or not (Kaplan, 1992; Kennedy, Green, & Vervaeke, 1993), and whether visual rhetorical tropes in general can parallel those found in language so that they can be classified according to linguistic rhetorical tropes (for such an exercise, see Mcquarrie & Mick, 1996). These are, however, empirically resolvable questions that can be easily incorporated into any pictorial metaphor and persuasion investigations, although when doing so researchers should exercise appropriate caution to prevent overgeneralization from linguistic to visual metaphors.

Development of Attitudes

Abelson (1986; see also Abelson & Prentice, 1989) contended that a process of metaphorical mapping motivates the development of the attitudinal system. He considered attitudes to be evaluative beliefs and claimed, based on linguistic evidence (e.g., Lakoff & Johnson, 1980), that humans think about their beliefs in the same terms as they think about their possessions. He also provided developmental evidence showing that when children start understanding the concept of belief, they do so by thinking about their beliefs in the same way as they think about their possessions. That is, the belief system of children is developed and structured through a metaphorical mapping to the domain of their possessions. This metaphorical organization of the belief system can be tapped for persuasive ends by matching messages to the underlying and constitutive conceptual metaphor of "Beliefs are like possessions." Thus, research on how information from linguistic and conceptual metaphors combines to affect beliefs and attitudes may lead to identification of rewarding theoretical insights regarding how attitudes develop.

CONCLUSION

Figurative comparisons, and in particular metaphors, have a long history as a persuasion tool. However, there are two interrelated questions not yet fully answered regarding (a) their persuasive superiority over literal language and (b) the process by which this effect may arise. The summary of the empirical research on metaphor and persuasion presented in this chapter brings us closer to some probable answers to the two questions and contributes to more effective use of this trope to influence evaluations.

NOTES

1. A *simile* is usually regarded as an explicit comparison between two concepts, where the similarities are clearly defined. It is considered an overt nonliteral comparison and is identified by the use of *as* or *like* as in the statement "The global marketplace is *like* a dictatorship." An *analogy* is a kind of mapping or isomorphism between the relations and entities of two systems of concepts and explicitly states the comparison of relational similarities between its referents. For example, in the analogy "Old age is to life as autumn is to year," the relation between *old age* and *life* from the domain of *human life cycle* is mapped to the relation between *autumn* and *year* from the domain of *seasonal cycle*. A *personification* compares humans to inanimate entities and applies properties that are normally associated with humans to the nonhuman entity. An example is "Look at the face of the clock," where the human property of *face* is used for describing a machine.

2. Although metaphor novelty and *aptness* may be related, the two should not be conflated. Metaphor aptness may be defined as a global judgment of the appropriateness of a metaphor to its discourse and message context (for an alternative definition, see Tourangeau & Sternberg, 1981). This judgment may depend on the persuasive context (e.g., consumer advertising vs. politics), dis-

course type (e.g., headline or slogan vs. a long message), communicative goals (e.g., explanation of factual evidence vs. presentation of testimony and opinion), and logical fit with the message content.

3. The other major theories of metaphor interpretation are comparison (Miller, 1979), interaction (Black, 1962, 1979; Richards, 1936), domains interaction (Tourangeau & Sternberg, 1981, 1982), parallel constraint satisfaction (Holyoak, 1985; Holyoak & Thagard, 1989, 1995; Spellman & Holyoak, 1992), and class inclusion (Glucksberg & Keysar, 1990, 1993; Glucksberg, Keysar, & McGlone, 1992).

4. There also are other dimensions of credibility such as attractiveness and sociability. However, the studies in the database of the meta-analysis did not assess other credibility components in any consistent manner, so there was not enough of a pool of studies to conduct an analysis.

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