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Part I

INTRODUCTION



Metaphor and Thought

The State of the Art

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Metaphor and Thought: The State of the Art

The publications of the first and second editions of *Metaphor and Thought* (Cambridge University Press) in 1979 and 1993, respectively, under the editorship of Andrew Ortony, were monumental events in the world of metaphor research. The 1979 edition was the first interdisciplinary volume devoted to metaphor that included contributions from notable scholars in philosophy, linguistics, psychology, and political science. Many of the articles in that volume are now classics and continue to be frequently cited among active metaphor researchers. Several other articles from scholars in linguistics and psychology were added to the 1993 edition, which too has been widely read and discussed.

But much has changed in the world of metaphor since 1993. There is now a huge body of empirical work from many academic disciplines that clearly demonstrates the ubiquity in metaphor in both everyday and specialized language. Most importantly, there is also significant research indicating

the prominence of metaphor in many areas of abstract thought and in people's emotional and aesthetic experiences. Metaphor is not simply an ornamental aspect of language, but a fundamental scheme by which people conceptualize the world and their own activities. The primary purpose of the *Cambridge Handbook of Metaphor and Thought* is to describe some of the key developments in contemporary metaphor research that detail the contribution of metaphor to human cognition, communication, and culture.

There are several distinguishing features of this handbook. First, metaphor scholarship has significantly advanced from purely speculative accounts of how metaphor works and is understood, primarily based on the analysis of a few, isolated linguistic examples. There is now much greater attention to the ways that context shapes metaphor use and understanding. Much of this work comes from experimental studies, but an increasing number of corpus studies, both small and large scaled, demonstrate some of the complexities associated with making general claims about the structure and

function of metaphors in language and thought. Indeed, many of the chapters in this volume address the benefits and limitations of different methods for doing metaphor analysis, both at a local level for identifying individual instances of metaphor in language and nonverbal expression and at a global level for reliably inferring larger-scale patterns of metaphorical thought from public manifestations of metaphor. More generally, the vast literature on metaphor has used a variety of analytic techniques to investigate empirically the broad extent of metaphor in human life.

Second, there is now a greater emphasis on situating metaphor studies within broad, comprehensive models of human cognition, communication, and culture. Although metaphor is clearly an important topic in its own right, the empirical study of metaphor has broader implications for theories of mind and meaning, especially in showing the prominence of metaphorical thought in everyday life. But theories of metaphor are now, more than ever, linked to detailed theoretical frameworks that aim to describe the underlying nature of language, thought, and communication. Many of the authors in this volume view metaphor as part of a larger system of human cognition and communicative practices and consequently do not believe that verbal and nonverbal metaphor requires extraordinary human effort to be produced and understood. Moreover, seeing metaphor as a natural outcome of human minds also points to new ways in which metaphor is related to a variety of other linguistic forms and cognitive activities.

Third, and related to the previous point, metaphor scholarship now focuses greater attention to how metaphor comes into being in both thought and communication. The traditional interest in metaphor centered on the question of how people understand novel metaphorical language, with the implicit assumption that the creation of these poetic figures was attributed to special individuals with significant artistic talents. But the articles in this collection place greater emphasis on where metaphors come from (e.g., brains, bodies, and culture), why

metaphor is so prominent in language and thought, and how public manifestations of metaphor (e.g., language, art, music) are specifically constrained by different communicative and emotional forces. In this way, the scope of metaphor studies has expanded enormously in recent years to cover the spectrums from brains to culture and from language and gesture to art and music.

Fourth, the incredible rise in the sheer number of scholarly works on metaphor in different academic fields illustrates a heightened sensitivity to metaphor. This increased attention demonstrates how scholars in virtually every discipline (e.g., mathematics, law, music, art) can contribute to understanding the functions and meanings of metaphor. Thus, research on metaphor is now as multidisciplinary, and interdisciplinary, as perhaps any topic being studied in contemporary academia. One result of this explosion of research on metaphor is a marvelous interaction between basic and applied scholarship, such that findings on the ways that metaphors are employed in real-world contexts offer important constraints on general theories of metaphor. Metaphor does not always appear in nice, neat packages that can be easily plucked out from some context for analysis. Speakers use metaphorical language, and engage in metaphorical thought, in complex, often contradictory patterns that make simple conclusions about both the ubiquity and structure of metaphor difficult to make. Rather than retreat back to made-up, isolated examples, many contemporary scholars exhibit great enthusiasm for uncovering the messy reality of metaphor use and the implications of such findings for comprehensive theories of metaphor.

Fifth, the interdisciplinary nature of metaphor studies now allows for greater recognition of the complex ways that metaphor arises from the interaction of brains, bodies, languages, and culture. Most earlier work conducted within traditional disciplinary frameworks aims to singularly locate metaphor as part of, for example, language (linguistics), mind (psychology), or culture (anthropology), with few scholars ever acknowledging the ubiquity

of metaphor in other domains of experience such as gesture, art, and music. This often created unproductive tension between metaphor scholars as individuals defended their own “turf” and methods as being the best way to understand the essence of metaphor and its interpretation. Contemporary metaphor scholarship, as seen in many of the present chapters, has properly shown how the analysis of specific metaphoric language in context, for instance, reveals the simultaneous presence of neural, linguistic, psychological, and cultural forces. This complexity, again, makes it difficult to offer sweeping, simplistic conclusions about metaphor, where it comes from and how it is used by real human beings in naturalistic contexts. But this trend to seek out language–mind–culture interactions in metaphor studies offers the best hope for understanding the prominence of metaphor in human understanding, yet one that appreciates the subtleties of human meaning-making practices shaped by a variety of linguistic and nonlinguistic sources.

Finally, several chapters in this volume give witness to the struggle that I refer to as the “paradox of metaphor,” in which metaphor is creative, novel, culturally sensitive, and allows us to transcend the mundane while also being rooted in pervasive patterns of bodily experience common to all people. Traditional metaphor scholars, and metaphor enthusiasts, typically resist arguments, and empirical findings, either suggesting the conceptual roots or embodied foundation for metaphorical thought and language. These critics see metaphor as a special rhetorical device that enables us to transcend momentarily above the ordinary literal world. Linking metaphor to the body, or entrenched conceptual thought, as in the idea of “conceptual metaphor,” seems to some as far too reductive and dismissive of the power of metaphoric language to reshape our imagination.

Yet advocates of entrenched patterns of metaphorical thought readily acknowledge metaphor’s ability in both verbal and non-verbal forms to create new modes of understanding often accompanied by special aes-

thetic pleasures. In many instances, however, creative, poetic metaphors are extensions of enduring schemes of metaphorical thought and not necessarily created *de novo*. Understanding how metaphor is both fundamental to many aspects of thought and yet special for creative language and artworks is a challenge taken up by several authors in this volume. My hope is that readers interested in the aesthetic qualities of metaphor will take the time to explore some of the proposals on the conceptual and embodied grounding for metaphorical thought and will see how this research draws connections between what is simultaneously ordinary and spectacular about metaphor.

All of the authors contributing to this volume are distinguished scholars from different academic fields who have done important work on metaphor and related poetic figures. The interdisciplinary world of metaphor scholarship is so large, with literally hundreds of excellent researchers making new discoveries all the time. A handbook like this one can only provide a forum for a small subset of this outstanding group of researchers, but I am pleased to present the new thoughts of the present contributors because their work is among the most widely recognized and discussed within the field. Not surprisingly, there are many areas of disagreement among the present contributors both in terms of the methods employed to do metaphor analysis and the resulting theories proposed to account for different aspects of metaphor in language, thought, and culture. Yet I am happy with this diversity of methods and theories because the topic of metaphor and thought is not one that is likely to be comprehensively characterized by any one perspective.

Contributors to this handbook were encouraged to write about their latest ideas but to do so in a way that readers new to the topic, or less familiar with the research on some facet of metaphor, will be readily able to recognize the significance of these ideas and proposals for ongoing thinking and research on metaphor. The handbook is divided into five general sections: (1) the roots of metaphor, (2) metaphor

understanding, (3) metaphor in language and culture, (4) metaphor in reasoning and understanding, and (5) metaphor in nonverbal expression. I hasten to note, however, that each chapter in the volume addresses major foundational themes on the relations between metaphor, thought, and understanding. A brief overview of each contribution is presented.

The Roots of Metaphor

The first section offers several contrasting visions on where metaphor comes from and how metaphor serves as the often unknowing foundation for human thought.

George Lakoff's chapter describes new advances in the brain sciences and neural computation relevant to metaphor ("The Neural Theory of Metaphor"). Links between brain and body are central to understanding the nature of thought, and metaphor is no exception. The neural theory follows developments in simulation semantics in which the neural circuitry characterizing the meanings of words, like "grasp," is also activated when one imagines or perceives grasping. This sense of meaning as mental stimulation is applied to the creation and use of metaphorical patterns such as those associated with "grasping concepts." The neural theory therefore offers a coherent set of explanations for why there should be conceptual metaphors in the first place, how metaphorical inferences work, how metaphors differ from blends, and how primary and complex metaphors contribute to our understanding of abstract concepts and the meanings of words, complex expressions, and grammatical constructions. Metaphor scholars need not conduct neural computational work themselves, and Lakoff offers insights on how to apply the broad scope of the neural theory to address fundamental issues on metaphorical thought and language.

Mark Johnson's chapter describes the importance of metaphor for the study of philosophy ("Philosophy's Debt to Metaphor"). Not only is metaphor a topic that has

long interested philosophers, but philosophers use the same conceptual resources of metaphor as do any human being, often without any awareness, and indeed outright rejection, of the fact that they are doing so. Johnson shows how perennial questions in philosophy – What is mind and how does it work? What does it mean to be a person? What is the nature of reality? Is there such a thing as free will? What things or actions are morally good? – are all dependent on metaphor for their answers. Philosophical reasoning and theories often rest on a foundation of simple and complex metaphors. Johnson concludes that giving proper acknowledgment to metaphor, and metaphoric thinking, is essential to future progress in philosophy.

Gilles Fauconnier and Mark Turner's chapter outlines recent theoretical advances on metaphor within conceptual blending theory ("Rethinking Metaphor"). Through a detailed analysis of the *TIME IS SPACE* metaphor, they demonstrate how metaphor interpretation requires elaborate integration networks and various techniques for building particular networks such as cobbling and sampling, compression, emergent structure, and overarching goals. These permanent features of cognition are not special to metaphor but can give rise to counterfactuals, analogies, categorizations, and metonymies. Nonetheless, the general framework of conceptual blending theory is capable of explicating various complexities of metaphorical thought and meaning that are difficult to describe within more traditional theories.

Sam Glucksberg's chapter describes empirical research in favor of the idea that metaphors are comprehended through both categorization and comparison processes ("How Metaphors Create Categories – Quickly"). He first rejects the traditional assumptions that literal meanings are necessarily processed either before or in parallel to nonliteral meanings given experimental findings that when available, metaphorical meanings are automatically determined. Glucksberg then considers the idea that metaphors are understood entirely by

comparison processes but claims instead that both literal and figurative comparison statements, including some similes, can be understood as implicit categorizations. Metaphors and similes are not identical because these two forms often communicate very different meanings for the same topic and vehicle terms. From this evidence, Glucksberg concludes that both categorization and comparison processes are used in metaphor and simile understanding, with apt metaphors working best as categorizations because the vehicle concept is an ideal example of the category it represents.

Dan Sperber and Deirdre Wilson outline their “relevance theory” perspective on metaphor in their chapter (“A Deflationary Account of Metaphors”). Under this view, speaking metaphorically is an example of “loose talk” that often is the best way to achieve optimal relevance. Even though verbal metaphors do not represent a completely accurate state of affairs, listeners are able to infer efficiently the appropriate contextual meanings of metaphors by creating ad hoc concepts following the principle of optimal relevance. Ad hoc concept construction is a process that is typical of metaphorical interpretations, but it is not exclusive to metaphors. In general, relevance theory maintains that metaphors are nothing special in terms of their processing, even if metaphors often convey special cognitive effects or meanings not easily communicated by more direct speech.

Metaphor Understanding

The second group of chapters presents various theories of how metaphors are understood based on different computational, behavioral, and neuroscience research.

Dedre Gentner and Brian Bowdle argue in their chapter that metaphors and similes are understood with processes of similarity and analogy (“Metaphor as Structure-Mapping”). They describe how processes of structural alignment, inference projection, progressive abstraction, and re-representation of different domains

are critical to immediate processing of both metaphors and similes. Moreover, widespread conceptual metaphors may be best characterized as extended structure-mappings between domains. Gentner and Bowdle then present their “career of metaphor” theory which claims that metaphors and similes typically evolve from being understood as novel comparison statements to being interpreted as category-inclusion statements in which the vehicle terms serve as the best instances of ad hoc categories. The “career of metaphor” hypothesis aims to offer a unified framework for understanding metaphor, analogy, and similarity.

Walter Kintsch’s chapter offers a computational theory of metaphor understanding based on the technique of “latent semantic analysis,” or LSA (“How the Mind Computes the Meaning of Metaphor: A Simulation Based on Latent Semantic Analysis”). LSA operationalizes meaning in terms of high-dimensional semantic space, measured in terms of word co-occurrence, irrespective of their symbolic relationships, and is based on a corpus of 11 million words. Word senses within LSA are not fixed but emergent from both the context-free vector that represents a word in LSA space and the context in which a word is used. This model allows Kintsch to predict the metaphorical or literal meanings of various noun-is-a-noun phrases that accord with human participants’ interpretations and aptness judgments. Simple metaphorical and literal language is therefore not understood by different processes as both can be comprehended by a model of human knowledge based on how word meanings are represented that is objective and comprehensive.

Rachel Giora’s chapter explores psycholinguistic studies on whether people engage in different psychological processes understanding literal and nonliteral language use (“Is Metaphor Unique?”). Her discussion analyzes various theoretical models of figurative language interpretation, with special attention to metaphor, which make different predictions on both the early processes and late products of understanding.

Giora forcefully argues that metaphor does not require distinct psychological processes to understand but that the salience of an utterance's meaning primarily determines the speed with which it is understood, not whether it is literal or figurative. She goes on to suggest how the salient–nonsalient continuum accounts for many empirical findings in the experimental literature not explainable by alternative theories and provides insights into the aesthetic appreciation of poetic metaphor.

Raymond W. Gibbs, Jr., and Teenie Matlock's chapter argues that part of our ability to make sense of metaphorical language, both individual utterances and extended narratives, resides in the automatic construction of a simulation, whereby we imagine performing the bodily actions referred to in the language ("Metaphor, Imagination, and Simulation: Psycholinguistic Evidence"). They describe empirical evidence from cognitive science showing the importance of embodied simulations in different cognitive activities and discuss very recent findings from psycholinguistics on metaphoric language interpretation that is consistent with the idea that our bodily imaginations are actively recruited in metaphor use. This process of building a simulation, one that is fundamentally embodied in being constrained by past and present bodily experiences, has specific consequences for how verbal metaphors are understood and how cognitive scientists, more generally, characterize the nature of metaphorical language and thought.

Seana Coulson reviews the major empirical findings on the neurological substrate of metaphor comprehension ("Metaphor Comprehension and the Brain"). Her discussion suggests that too much of this research assumes metaphor to be a homogenous category (e.g., metaphor and idioms are often grouped together), and that, somewhat surprisingly, there has been no empirical study of the effect of conceptual metaphors on the neurological processes involved in metaphoric language understanding. Coulson urges scientists to not simply seek the neural substrates of metaphor in tra-

ditional language areas of the brain. Much recent research and theory points to how metaphor relies on interactions between auditory, visual, kinesthetic areas of the brain, and the entire human body in the physical–cultural world more generally.

Metaphor in Language and Culture

The third group of chapters examines the prominence and functions of metaphor in different contexts, including different languages and cultures.

Lynne Cameron explores the ways that metaphor shapes, and is shaped by, ongoing talk ("Metaphor and Talk"). Her analysis reveals that metaphors are sporadic in discourse, sometimes appearing in thick clusters and sometimes absent altogether. Cameron discusses some of the ways that metaphor is signaled in talk and allows conversational participants to manage their interactions and come to joint understandings of various ideas, while in other instances, people's talk suggests their entirely different metaphoric understandings of ideas and events. She also strongly argues that claims about conceptual metaphor are too often divorced from real language use, and that each individual may have different versions of conceptual metaphors given their respective culturally contextualized experiences and interactions.

Graham Low's chapter considers the impact of metaphor on teaching and learning, as well as on concepts of educational change ("Metaphor and Education"). He criticizes some notable past theories of educational concepts and processes, such as the idea of "generative metaphor," for failing to empirically demonstrate that people actually conceptualize situations in metaphoric, as opposed to metonymic, terms. Theoretical proposals about metaphor in education must not, therefore, be made apart from rigorous empirical analyses that are sensitive to context-sensitive differences between metaphor and metonymy. Low then examines the role of metaphor in foreign-language teaching and raises some

critical questions about the indiscriminate application of cognitive theories of metaphor to classroom situations. He urges that educators pay greater attention to how metaphor is used at a discourse, and not just vocabulary, level, and that more discussion should be given to exactly what teachers want students to learn through their exposure to metaphor.

Elena Semino and Gerard Steen consider in their chapter the ubiquity and functions of metaphor in literature (“Metaphor in Literature”). They note the paradox of metaphor in literature being both continuous and discontinuous with metaphorical language use in non-literary contexts. On the one hand, many literary metaphors are based in common metaphorical schemes of thought seen in non-literary discourse (e.g., political speeches and scientific writings), while, on the other hand, some literary metaphors are unique to their specific contexts in both form and functions. Semino and Steen explain how both points of view have validity and that understanding the distribution, function, and effects of metaphor in literature will require supplementary information from both corpus-linguistic and psycholinguistic studies.

Ning Yu describes how metaphor emerges from the interaction between body and culture in his chapter (“Metaphor from Body and Culture”). He provides a detailed analysis of body-part terms for “face” in Chinese and English to show how metaphors are typically grounded in bodily experiences that are shaped by cultural understandings. Yu also shows how a decompositional analysis based on the distinction between primary and complex metaphors allows us to determine which aspects of metaphor are bodily or culturally based. Primary metaphors, derived from bodily experience, are likely to be widespread and universal, while complex metaphors, based on basic metaphoric and metonymic mappings and cultural beliefs, are likely to be more culturally specific.

Josef Stern’s chapter considers whether and how a semantic theory can account for the meanings of metaphors (“Metaphor,

Semantics, and Context”). Stern responds to two skeptical challenges to a semantic theory of metaphor regarding the difference between what words literally mean and can be used to say and the context-dependence of metaphorical meaning. He advances a semantic theory that elaborates how metaphor depends on the literal and how context has different roles in the communication of metaphorical meaning. More generally, Stern offers a philosophical account of how the semantic structures of metaphor help us understand its cognitive significance beyond its propositional content in context.

Alice Deignan introduces the important advances on metaphor in corpus research (“Corpus Linguistics and Metaphor”). She presents detailed analyses showing how many classic cases of both linguistic and conceptual metaphor, often arising from consideration of single texts or analysts’ own intuitions, are not exhibited in the same patterns when viewed from the perspective of large corpora studies. In some instances, data from experimental psycholinguistics on metaphor understanding may not accurately reflect what people ordinarily do because the metaphors studied do not follow typical collocational and syntactic patterns. Deignan argues that metaphor scholars must therefore be more sensitive to naturalistic language patterns in constructing experimental tests and broader theories of metaphor and suggests ways that corpora linguistics can aid researchers in achieving this goal.

Yeshayahu Shen describes the relation of metaphor to several other poetic figures, notably, simile, zeugma, and synaesthetic metaphors, in his chapter (“Metaphor and Poetic Figures”). He aims to answer the difficult question – how can many novel figurative expressions whose meanings are difficult to describe often be so easy to understand? Shen argues that the cognitive “directionality” principle (i.e., metaphorical source domains tend to represent conceptually more accessible, concrete, and salient concepts than do target domains) accounts for various empirical findings on the distribution and comprehension of poetic figures.

This work complements research on conceptual metaphor theory and experimental psycholinguistic studies of figurative language by demonstrating how the meanings and systematicity of many novel, poetic figures arise from the interaction of different linguistic conventions and fundamental cognitive principles.

Metaphor in Reasoning and Feeling

The fourth section of chapters highlights the role of metaphor in different forms of reasoning and in human feeling and expression.

John A. Barnden's chapter offers an overview of why metaphor is central to many applications of work in artificial intelligence (AI) ("Metaphor and Artificial Intelligence: Why They Matter to Each Other"). He argues that metaphorical mappings can best be described in computational terms that concretely outline what gets mapped, the effects these mappings achieve, and how to avoid unwanted side effects of these mappings. Moreover, AI work shows the importance of reasoning about beliefs and uncertainty in metaphorical thinking and verbal metaphor interpretation, and how metaphor is integrated with metonymy in much inferential understanding. AI provides an excellent set of tools for doing metaphor research that requires scholars to be explicit about underlying mechanisms of thought and language central to metaphor theory.

Rafael Núñez's chapter presents the case for an embodied, metaphorical understanding of many mathematical concepts ("Conceptual Metaphor, Human Cognition, and the Nature of Mathematics"). He offers an analysis of how various mathematical ideas are described in terms of metaphorical language and argues that such talks reflect metaphorically alive structuring of abstract concepts and thus are not dead metaphors. Núñez goes on to show how metaphoric gestures employed when people talk about mathematics provides important evidence on the psychological reality of metaphorical mathematics. Overall, mathematics arises

naturally from the interactions of our brains, bodies, and experiences with the world, and conceptual metaphor has a big part in the creation and maintaining of abstract mathematical ideas.

Steven L. Winter's chapter ("What Is the 'Color' of Law?") presents an in-depth analysis of the metaphor "color of law" (i.e., referring to official misconduct or the way the trappings of office provide individuals with the power and prestige of the state) to show how both historical and contemporary legal theory is guided by metaphoric conceptualizations. Contrary to the widely held belief in legal circles that metaphors are to be avoided, with legal reasoning being best served by ideas that are propositional and defined by necessary and sufficient criteria, Winter argues that the cognitive theory of metaphor challenges the beliefs that linguistic meaning is arbitrary and a matter of speakers' self-consciously held intentions. Meaning is configured by embodied and social experiences that are framed and constrained by metaphoric processes. Recognition of metaphorical thought, and the methods of conceptual metaphor analysis, demonstrates how legislative statutes express significant aspects of our social reality that cannot be devalued by reductive approaches to legal reasoning.

Zoltán Kövecses's chapter examines the questions of whether emotion metaphors are unique to emotions and whether emotion metaphors are universal ("Metaphor and Emotion"). Based on detailed, cross-linguistic analyses, he claims that emotion metaphors primarily arise from the generic-level metaphor CAUSES ARE FORCES, and that certain specific source domains (e.g., OPPONENT, NATURAL FORCE, HEAT), apply to a wide range of target concepts other than emotion. Furthermore, even though many emotion metaphors are grounded in universal bodily experiences, there is significant cultural framing of these experiences that lead to variation in the kinds of source domains in emotion metaphors across different cultures.

Linda M. McMullen writes on the role that metaphor plays in psychotherapy

("Putting It in Context: Metaphor and Psychotherapy"). She argues that most claims about the effect of metaphorical language in psychotherapeutic outcomes ignore the contextualized nature of metaphor in client and therapist talk. Isolating specific metaphors for analysis has made metaphor seem too powerful in some cases and benign in other situations. McMullen calls for empirical investigations of metaphor that properly acknowledge the conversational exchanges and cultural contexts in which they are part. Only by putting metaphor in context can we fully understand what metaphors do for us in psychotherapy and other situations.

Antal F. Borbely's chapter describes the importance of metaphor in the concepts and practice of psychoanalysis ("Metaphor and Psychoanalysis"). Although psychoanalysts have long debated the role of metaphor in psychoanalysis, Borbely offers a new understanding of metaphor and its interaction with metonymy within psychoanalysis by situating his overview in terms of contemporary advances in metaphor research over the past two decades. By demonstrating how key psychodynamic concepts such as trauma, defense, transference, and interpretation are grounded in fundamental metaphoric and metonymic principles, this chapter provides for new links between psychoanalysis and research from cognitive science.

Cristina Cacciari's chapter addresses the topic of synaesthetic metaphor, where it comes from, and how it is understood ("Crossing the Senses in Metaphorical Language"). She argues that perceptually based metaphorical expressions (e.g., "cold silence") are grounded in the structure of perceptual experiences and the human sensory system. Contemporary research in cognitive and neuropsychology lends support to this idea, with most people being able to use synaesthetic metaphors quite easily. However, some individuals have special abilities to create and exploit cross-sensory mappings (i.e., blending sounds with colors), which also provide extraordinary evidence for how sensory experiences, supported by neural mechanisms, are fundamental to metaphorical mappings in thought and language.

Metaphor in Nonverbal Expression

The final section describes several important research trends on metaphor in different forms of nonverbal expression.

John M. Kennedy's chapter discusses how metaphor, and other related tropes, can be realized in art objects, such as paintings ("Metaphor and Art"). He first notes that metaphors are abundant in art with metaphoric pictures often playing on the activity of picturing as a way of using a pictorial device to make a point about the topic. Metaphoric pictures are especially notable because, as Kennedy claims, the mind does not use images that most directly illustrate the thought. Kennedy introduces some contrasts between verbal and pictorial metaphors, describing, for example, how some successful verbal metaphors can make poor pictorial ones and vice versa. This chapter generally celebrates the perceptual nature of metaphoric thought and the ways that art allows people to play with metaphoric possibilities.

Charles Forceville's chapter discusses the meanings and functions of metaphor in pictures and other multimodal forums ("Metaphor in Pictures and Multimodal Representations"). He describes how metaphors in pictures, advertisements, and films share many of the same qualities observed in linguistic metaphor, including how conceptual metaphors appear to motivate many aspects of nonlinguistic metaphor. However, the study of pictorial and multimodal metaphor also raises important questions about the identification of source and target domains in all metaphorical mappings. Forceville aptly considers some of the communicative purposes of multimodal metaphors and suggests they may have more emotional impact than linguistic metaphors, and aid both local and global narrative coherence, even in cases where the creator of a picture or film, for instance, did not consciously intend these metaphors to be understood as such.

Alan Cienki and Cornelia Müller argue in their chapter that gestures offer important insights into the metaphorical nature