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The Bodily Basis of Meaning, Imagination, and Reason

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Figures 13, 14, 15, and 16 in Chapter 4 originally appeared in Chapter 1 of Rudolph Arnheim, *Art and Visual Perception*, as figures 1, 2, 3, and 5. © 1974 The Regents of the University of California. Used by permission of the University of California Press.

The University of Chicago Press, Chicago 60637
The University of Chicago Press, Ltd., London

96 95 94 93 92 91 90 89 88 87 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Johnson, Mark, 1949–
The body in the mind.

Bibliography: p.
Includes index.
1. Meaning (Philosophy) 2. Imagination (Philosophy) 3. Reason. 4. Metaphor. I. Title.
B105.M4J64 1987 121'.68 86-25102
ISBN 0-226-40317-3

For Sanders and Paul Michael

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Preface

A Crisis in the Theory of Meaning and Rationality

Without imagination, nothing in the world could be meaningful. Without imagination, we could never make sense of our experience. Without imagination, we could never reason toward knowledge of reality. This book is an elaboration and defense of these three controversial claims. It explores the central role of human imagination in all meaning, understanding, and reasoning.

It is a shocking fact that none of the theories of meaning and rationality dominant today offer any serious treatment of imagination. You will not find it discussed in any of the standard texts on semantics or in any of the most influential studies of rationality. These works will, of course, acknowledge that imagination plays a role in discovery, invention, and creativity, but they never investigate it as essential to the structure of rationality.

The total absence of an adequate study of imagination in our most influential theories of meaning and rationality is symptomatic of a deep problem in our current views of human cognition. The difficulty, as I shall argue, is not a matter of mere oversight, so that we might simply fill in the gap by inserting a chapter on imagination into our theories of mind, language, and knowledge. The problem is far more distressing, for it concerns our entire orientation toward these issues, based as it is upon a widely shared set of presuppositions that deny imagination a central role in the constitution of rationality.

I shall give the name "Objectivism" to the offending cluster of as-

sumptions that has led to this blindness toward imagination. As we shall see, this Objectivist orientation is rooted deeply in the Western philosophical and cultural tradition, and it has recently been elaborated in highly sophisticated ways by philosophers, linguists, psychologists, and computer scientists generally. But Objectivism is not merely an abstruse philosopher's project; it plays an important role in all our lives. In its nonsophisticated manifestation, as a set of shared commonplaces in our culture, it takes the following general form: The world consists of objects that have properties and stand in various relationships independent of human understanding. The world is as it is, no matter what any person happens to believe about it, and there is one correct "God's-Eye-View" about what the world really is like. In other words, there is a rational structure to reality, independent of the beliefs of any particular people, and correct reason mirrors this rational structure.

To describe an objective reality of this sort, we need language that expresses concepts that can map onto the objects, properties, and relations in a literal, univocal, context-independent fashion. Reasoning to gain knowledge of our world is seen as requiring the joining of such concepts into propositions that describe aspects of reality. Reason is thus a purely formal capacity to connect up, and to draw inferences from, these literal concepts according to rules of logic. Words are arbitrary symbols which, though meaningless in themselves, get their meaning by virtue of their capacity to correspond directly to things in the world. And rational thought can be viewed as an algorithmic manipulation of such symbols.

There is nothing about human beings mentioned anywhere in this account—neither their capacity to understand nor their imaginative activity nor their nature as functioning organisms nor anything else about them. Thus, according to recent versions of Objectivism, the *humanness* (the human embodiment) of understanding has no significant bearing on the nature of meaning and rationality. The structure of rationality is regarded as transcending structures of bodily experience. And meaning is regarded as objective, because it consists only in the relation between abstract symbols and things (with their properties and relations) in the world. As a consequence, the way human beings grasp things as meaningful—the way they understand their experience—is held to be incidental to the nature of meaningful thought and reason.

This view of the objective nature of meaning and rationality has been held for centuries by philosophers in the Western tradition, and, in the last several decades, it has come to define *the* dominant research program in a number of related disciplines. In philosophy, linguistics, psychology, computer science, and other disciplines within the new field of "cognitive science," this Objectivist semantics has been developed in a highly technical and logically rigorous fashion.

Within the last decade, a crisis has arisen. This received Objectivist view of meaning and rationality has been seriously questioned, both on logical grounds and on grounds of a wide-ranging collection of empirical studies. The logical argument has been given forceful expression most notably by Hilary Putnam.[1] It concerns the general nature of the relation between systems of abstract symbols and models of the world. Briefly, Putnam demonstrates that any attempt to provide meaning for abstract symbols via their direct and unmediated correspondence to the world, or any model of it, must inevitably violate our most basic understanding of what meaning itself is.

The empirical evidence comes from studies in many different disciplines, all of which share a common concern, namely, they focus on phenomena where human understanding is required for an account of meaning and reason. Among the more important phenomena that have been explored, as challenging Objectivist assumptions, are the following:

Categorization. The classical (Objectivist) view holds that categories are defined by necessary and sufficient conditions which specify the properties shared by all and only members of the category. Recent studies show that, although a few of our categories fit the classical model, most of them differ insofar as they involve imaginative structures of understanding, such as schemata, metaphor, metonymy, and mental imagery. Furthermore, their structures typically depend on the nature of the human body, especially on our perceptual capacities and motor skills. Such categories are formed on the basis of imaginatively structured cognitive models, and their nature is such that they could not correspond directly to anything in reality external to human experience.[2]

Framing of concepts. On the classical view, concepts exist by themselves, objectively. They are characterized only by their relation to states of affairs in the real world, or possible worlds. They are thus independent of any imaginatively structured way of conceiving a domain of human experience. Empirical studies indicate, on the contrary, that most human concepts are defined and understood only within concep-

tual frameworks that depend on the nature of human experience in given cultures. Such concepts are neither universal nor objective in any sense acceptable within the classical view.[3]

Metaphor. Until recently, metaphors have been regarded as deviant linguistic expressions whose meaning, if any, is reducible to some set of literal propositions. Those propositions, in turn, are understood in terms of the traditional theory of meaning, that is, as characterized by virtue of their ability to fit objective reality. In contrast to this reductionist view, there is a growing body of evidence that metaphor is a pervasive, irreducible, imaginative structure of human understanding that influences the nature of meaning and constrains our rational inferences.[4]

Polysemy. Polysemy is the phenomenon whereby a single word has many meanings that are systematically related (e.g., *newspaper* in "The ad's in the *newspaper*" and "He works for the *newspaper*"). Polysemy is contrasted with homonymy, which involves completely different words that happen to sound (or be written) the same way (e.g., *bank* in "My money's in the *bank*" and *bank* in "Let's go sit by the *bank* of the river"). The traditional account of meaning has never come to grips with the full range of cases of polysemy. Recent studies indicate why this is so: Polysemy involves the extension of a central sense of a word to other senses by devices of the human imagination, such as metaphor and metonymy, and there is no place for this kind of account in the Objectivist view.[5]

Historical semantic change. Standard accounts of semantic change have been overly constricted by the constraints imposed by traditional theories of meaning.[6] They were limited by and large to cases where meanings were either expanded, narrowed, or changed to the opposite. However, Sweetser has demonstrated that there is a large class of historical semantic changes within Indo-European that can only be explained via metaphorical projections within the human conceptual system which are motivated by common human experiences.[7] This mode of explanation goes beyond the traditional theory of meaning because it involves imaginative patterns of human understanding that are projected to connect up different cognitive domains.

Non-Western conceptual systems. On the Objectivist account, there are no truly different alternative conceptual systems for grasping aspects of our experience. Apparently different systems are allegedly reducible to one universal set of concepts that map directly onto the objective features of the world. In recent years, there have been studies of the

semantics of non-Western languages done in very great detail—sufficient detail to demonstrate that the conceptual systems underlying some of them are fundamentally different from, and even incommensurable with, our conceptual system. For example, we have found that the conceptions of space and time upon which certain non-Western languages are structured is radically different in kind from the conceptions on which familiar Indo-European languages are structured.[8]

Growth of knowledge. The classical Objectivist view of knowledge assumes that "science" produces successive theories that progress ever and ever closer to *the* correct description of reality. And, even though we will never achieve the final, complete account, it is believed that genuine empirical knowledge involves universal logical structures of inference whose results can be tested against theory-neutral "objective" data. This foundationalist view of knowledge presupposes an Objectivist view of both meaning and rationality. As a result of an impressive and mushrooming body of research on the growth of scientific knowledge, this Objectivist view has been turned on its head, at least in its strong version. We have learned that what counts as knowledge is always a contextually dependent matter—there are no "theory-neutral data" in the required Objectivist sense, and criteria of rationality are ineliminably evaluative and dependent on our purposes and interests. Consequently, most versions of Objectivist theories of meaning and rationality have been undermined by our new understanding of the nature and development of human knowledge.[9]

The studies in any one of these areas are sufficient to radically question Objectivist views of meaning and rationality. Taken together, they are overwhelming. They create a crisis in the theory of meaning and rationality by showing us that we cannot preserve our deeply rooted Objectivist commitments. In particular, this vast network of related empirical studies, in conjunction with the logical argument voiced by Putnam, points to one fundamental moral: *any adequate account of meaning and rationality must give a central place to embodied and imaginative structures of understanding by which we grasp our world.* The traditional Objectivist accounts focus on a very restricted set of phenomena, ignoring, for the most part, just those kinds of phenomena mentioned above, which have given rise to the "crisis." So, it has become necessary to open up the field of semantics, and to enrich our account of reason, in order to comprehend this new range of phenomena that are now being recognized as central to human understanding.

Putting the Body Back into the Mind

The key to an adequate response to this crisis is to focus on something that has been ignored and undervalued in Objectivist accounts of meaning and rationality—the *human body,* and especially those structures of imagination and understanding that emerge from our embodied experience. The body has been ignored by Objectivism because it has been thought to introduce subjective elements alleged to be irrelevant to the objective nature of meaning. The body has been ignored because reason has been thought to be abstract and transcendent, that is, not tied to any of the bodily aspects of human understanding. The body has been ignored because it seems to have no role in our reasoning about abstract subject matters.

Yet, in all of the empirical studies cited above, which have given rise to the crisis, the embodiment of human meaning and understanding manifests itself over and over, in ways intimately connected to forms of imaginative structuring of experience. The kind of imaginative structuring uncovered in these studies does not involve romantic flights of fancy unfettered by, and transcending, our bodies; rather, they are forms of imagination that grow out of bodily experience, as it contributes to our understanding and guides our reasoning.

To illustrate this important and undervalued notion of embodied, imaginative understanding, let us consider two types of imaginative structure that are central to the present study: image schemata and metaphorical projections. An image schema is a recurring, dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience. The VERTICALITY schema, for instance, emerges from our tendency to employ an UP-DOWN orientation in picking out meaningful structures of our experience. We grasp this structure of verticality repeatedly in thousands of perceptions and activities we experience every day, such as perceiving a tree, our felt sense of standing upright, the activity of climbing stairs, forming a mental image of a flagpole, measuring our children's heights, and experiencing the level of water rising in the bathtub. The VERTICALITY schema is the abstract structure of these VERTICALITY experiences, images, and perceptions. One of the central arguments of this book is that experientially based, imaginative structures of this image-schematic sort are integral to meaning and rationality.

A second, related type of embodied imaginative structure central to my inquiry is metaphor, conceived as a pervasive mode of understanding by which we project patterns from one domain of experience in order to structure another domain of a different kind. So conceived, metaphor is not merely a linguistic mode of expression; rather, it is one of the chief cognitive structures by which we are able to have coherent, ordered experiences that we can reason about and make sense of. Through metaphor, we make use of patterns that obtain in our physical experience to organize our more abstract understanding. Understanding via metaphorical projection from the concrete to the abstract makes use of physical experience in two ways. First, our bodily movements and interactions in various physical domains of experience are structured (as we saw with image schemata), and that structure can be projected by metaphor onto abstract domains. Second, metaphorical understanding is not merely a matter of arbitrary fanciful projection from anything to anything with no constraints. Concrete bodily experience not only constrains the "input" to the metaphorical projections but also the nature of the projections themselves, that is, the kinds of mappings that can occur across domains.

As an example of this constraint on meaning and reasoning, let us consider a very simple, but pervasive, metaphorical understanding: MORE IS UP. The propositional expression "more is up" is a somewhat misleading shorthand way of naming a complex experiential web of connections that is not itself primarily propositional. It is no accident that we understand QUANTITY in terms of the VERTICALITY schema mentioned above in exactly the way we do. Examples such as *Prices keep going up; The number of books published each year keeps rising; His gross earnings fell; Turn down the heat,* and many others, suggest that we understand MORE (increase) as being oriented UP (involving the VERTICALITY schema). There is a good reason why this metaphorical projection from UP to MORE is natural, and why MORE is not oriented DOWN. The explanation has to do with our most common everyday bodily experiences and the image schemata they involve. If you add more liquid to a container, the level goes up. If you add more objects to a pile, the level goes up. MORE and UP are therefore correlated in our experience in a way that provides a *physical* basis for our *abstract* understanding of quantity.

In this book, then, the term "body" is used as a generic term for the embodied origins of imaginative structures of understanding, such as image schemata and their metaphorical elaborations. An alternative way to state my project is to say that, contrary to Objectivism, I focus on the indispensability of embodied human *understanding* for meaning and rationality. "Understanding," of course, is here regarded as populated with just those kinds of imaginative structures that emerge from

our experience as bodily organisms functioning in interaction with an environment. Our understanding, I shall argue, involves many preconceptual and nonpropositional structures of experience (such as image schemata) that can be metaphorically projected and propositionally elaborated to constitute our network of meanings.

Finally, in addition to the key terms "body," "imaginative structure," and "understanding," I want to emphasize a notion of "experience" richer than that typically countenanced by Objectivism. Image schemata and metaphorical projections are *experiential* structures of meaning that are essential to most of our abstract understanding and reasoning. The metaphorical projections are not arbitrary but rather are highly constrained by other aspects of our bodily functioning and experience. "Experience," then, is to be understood in a very rich, broad sense as including basic perceptual, motor-program, emotional, historical, social, and linguistic dimensions. I am rejecting the classical empiricist notion of experience as reducible to passively received sense impressions, which are combined to form atomic experiences. By contrast, experience involves everything that makes us human—our bodily, social, linguistic, and intellectual being combined in complex interactions that make up our understanding of our world.

The Body in the Mind is thus an exploration into some of the more important embodied imaginative structures of human understanding that make up our network of meanings and give rise to patterns of inference and reflection at all levels of abstraction. My purpose is not only to argue *that* the body is "in" the mind (i.e., that these imaginative structures of understanding are crucial to meaning and reason) but also to explore *how* the body is in the mind—how it is possible, and necessary, after all, for abstract meanings, and for reason and imagination, to have a bodily basis.

Acknowledgments

Six years ago, when George Lakoff and I finished *Metaphors We Live By,* we were painfully aware that our inquiries into the central role of metaphor in human understanding raised a number of difficult issues about the nature of meaning, understanding, and rationality. Since then, we have maintained an ongoing dialogue as we each pursued questions related to that initial joint project. I could never express fully my gratitude to George for his deep insights, unfailing support, sustained criticism, and abiding commitment to our shared undertaking.

There are other important people without whom this body of work would never have achieved even a semblance of sense and coherence. These are people who read one or more versions of this book and supplied copious comments, upon which I have depended heavily. During my stay at Berkeley last year, Claudia Brugman and Eve Sweetser were especially generous with their time, effort, and linguistic insight. On the philosophical side, I want to express my appreciation to Robert N. McCauley and George McClure, who have spent untold hours working on my manuscript and trying to educate me through our continued conversations over the last six years. David Clarke, Michele Emanation, Thomas Mitchell, Bob Radtke, and an anonymous reviewer for the University of Chicago Press have also worked hard in supplying criticism and suggestions on earlier versions. Nancy Tuana co-authored the analysis of Hans Selye's metaphorical reasoning (in Chapter 5). I have benefited also from discussions of semantics with David Banach, Geoffrey Nathan, and Margaret Winters.

Much of my work was completed during a sabbatical granted to me by Southern Illinois University at Carbondale. During part of that time I had the good fortune to receive a development award to work at the Institute of Cognitive Studies, University of California, Berkeley. Anyone who has ever been associated with that interdisciplinary community knows what a stimulating and supportive group it is. In addition to people already named above, I want to thank Hubert Dreyfus, John Searle, and Leonard Talmy for lectures and conversations that shaped my views.

My debt to my wife, Sandra McMorris Johnson, is of a different nature. As an artist, she has gone beyond mere discussion of the nature of meaning to create works of art that make palpably present dimensions of meaning that are not propositional in any ordinary sense. To see her work is to begin to glimpse the depths of meaning that emerge through color, line, texture, form, and sheer physical presence.

Another major force on my thinking has been my son, Paul Michael, who grew to age two as I was working out the bulk of my project. Every single day he gurgled, grasped, crawled, sucked, tottered, and groped his way toward a balanced upright posture and the miracle of speech that comes along with it; he reminded me constantly of the obvious centrality of our embodiment in the constitution of our world and of all its possibilities for meaning.

Introduction: The Context and Nature of This Study

The Importance of the Body in Meaning and Reason

We human beings have bodies. We are "*rational* animals," but we are also "rational *animals*," which means that our rationality is embodied. The centrality of human embodiment directly influences what and how things can be meaningful for us, the ways in which these meanings can be developed and articulated, the ways we are able to comprehend and reason about our experience, and the actions we take. Our reality is shaped by the patterns of our bodily movement, the contours of our spatial and temporal orientation, and the forms of our interaction with objects. It is never merely a matter of abstract conceptualizations and propositional judgments.

In this book I am going to explore some of the more important ways in which structures of our bodily experience work their way up into abstract meanings and patterns of inference. Special attention is devoted to imaginative structuring and projection, as they affect human meaning, understanding, and rationality. My argument begins by showing that human bodily movement, manipulation of objects, and perceptual interactions involve recurring patterns without which our experience would be chaotic and incomprehensible. I call these patterns "image schemata," because they function primarily as abstract structures of images. They are gestalt structures, consisting of parts standing in relations and organized into unified wholes, by means of which our experience manifests discernible order. When we seek to comprehend this order and to reason about it, such bodily based schemata play a central role. For although a given image schema may

emerge first as a structure of bodily interactions, it can be figuratively developed and extended as a structure around which meaning is organized at more abstract levels of cognition. This figurative extension and elaboration typically takes the form of metaphorical projection from the realm of physical bodily interactions onto so-called rational processes, such as reflection and the drawing of inferences from premises. I shall try to show that what are often thought of as abstract meanings and inferential patterns actually do depend on schemata derived from our bodily experience and problem-solving.

There are two especially controversial aspects of the view I will be developing concerning the centrality of image schematic structures in the organization of meaning and in the nature of our inferences. *The first is their apparently nonpropositional, analog nature. The second is their figurative character, as structures of embodied imagination.*

I cannot overemphasize the importance of these two aspects. This book consists chiefly in an extended development of these characteristics of image schemata and their radical implications for a theory of human meaning, understanding, and rationality. The key terms to be explicated include: "image schema," "metaphor," "imagination," "nonpropositional," and "embodied." Since my general perspective is partly at odds with the mainstream theories, it is important to guard against assuming that I employ these terms with their standard meanings. Although I intend to keep these key notions connected to their ordinary meanings, it is necessary to extend them beyond their usual scope. For example, I will not be using "metaphor" in the traditional sense as merely a figure of speech; rather, I shall identify it as a pervasive, indispensable structure of human understanding by means of which we figuratively comprehend our world. And I shall argue that "imagination" is a basic image-schematic capacity for ordering our experience; it is not merely a wild, non-rule-governed faculty for fantasy and creativity. Furthermore, I will eventually show that certain image-schematic meaning structures are not "propositional" in the traditional sense, and yet they *are* propositional in a *special sense* that makes them central to our rationality. At the end of my account, I hope to have given these terms meanings that are both connected to standard or ordinary usage but that make better sense of our experience of meaning and reasoning than the received views do.

According to the dominant philosophical views of meaning and rationality, neither of the above two characteristics of image schemata (i.e., their nonpropositional and imaginative character) is considered relevant to the proper conceptual and propositional nature of meaning.

Virtually everyone agrees that human *experience* and *meaning* depend in some way upon the body, for it is our contact with the entire spatio-temporal world that surrounds us. However, the received notion of the role of bodily input (into meaning and inference patterns) does not include a place for nonpropositional, figuratively elaborated schematic structures.

In the Preface I gave the name "Objectivism" to the tradition that treats meaning and rationality as purely conceptual, propositional, and algorithmic, and therefore in no way dependent on metaphorical extensions of nonpropositional image schemata. Since Objectivists think that meaning and rationality transcend the way individuals might happen to grasp meanings or understand reasoning processes, they tend to view reason in abstract and absolute terms, as if it operated in a realm free of bodily constraints and governed only by its own logical rules. In other words, reason is regarded as master of its own autonomous realm, subject only to its own structures, and providing a universally valid basis for rational analysis and criticism. And, as we shall see later, this Objectivist vision of abstract reason lends support to the argument that humans have access to a value-neutral, ahistorical framework for correctly describing reality.

My central purpose is to develop a constructive theory of imagination and understanding that emphasizes our embodiment as the key to dealing adequately with meaning and reason (and which, incidentally, solves or dissolves certain problems intrinsic to Objectivism). I am going to explore a hitherto neglected domain of human cognition—an area in which what is typically regarded as the "bodily" works its way up into the "conceptual" and the "rational" by means of imagination.

Since the view of meaning, understanding, and reason that I will be developing is largely at odds with the dominant Objectivist tradition in Western philosophy, I want to describe this tradition more fully, in order to explain why it neglects just those aspects of understanding that I shall be emphasizing, namely, operations on nonpropositional, figuratively developed schematic structures in the formation of meaning and in the drawing of inferences based on that meaning.

Objectivist Theories of Meaning and Rationality

So far, I have only described Objectivism as a loosely related cluster of assumptions that form a more or less commonsense view of relations among mind, language, and the physical world. It assumes a fixed and determinate mind-independent reality, with arbitrary symbols that get

meaning by mapping directly onto that objective reality. Reasoning is a rule-governed manipulation of these symbols that gives us objective knowledge, when it functions correctly.

It is now necessary to get more precise about Objectivist commitments, if we are to see why a theory of imagination is so badly needed. In particular, we need a statement of the chief implications of Objectivism for the theories of meaning and rationality that dominate contemporary cognitive science. What we find is not so much a list of assumptions attributable uniformly to every mainstream theory, but rather a general view that has fixed the context of discussion for these theories. The major framework has the following character.

THE OBJECTIVIST THEORY OF MEANING

1. Meaning is an abstract relation between symbolic representations (either words or mental representations) and objective (i.e., mind-independent) reality. These symbols get their meaning solely by virtue of their capacity to correspond to things, properties, and relations existing objectively "in the world."

2. Concepts are understood as general mental representations (Kant) or as logical entities (Frege)—in either case, highly abstract and well-defined—that can be used to identify what things or objects there are, what properties they have, and what relations they can stand in. Concepts must be relatively "general" in character if they are to contain or present what is common to several particular objects. The concept "chair," for instance, applies to all chairs (specifies what all chairs share in common that makes them "chairs"), and so incidentally is not a particular image of this or that chair.

3. Concepts are "disembodied" in the sense that they are not tied to the particular mind that experiences them in the way that, say, images are. The image I form of a chair is thought to be particular, subjective, and embodied (in me), whereas my concept of a chair can be objective and float free of any given embodiment. It is this shareable, abstract, and general nature of concepts that is supposed to make our knowledge possible, communicable, and objective.

4. The task of a theory of meaning is to be able to explain the meaningfulness of any string of symbols that is not nonsense. This task is usually defined as follows: To give the meaning of a particular utterance is to give the conditions under which it would be true, or the conditions under which it would be "satisfied" by some state of affairs in the world. To give the meaning of an assertion, such as "All our dishes are dirty," would be to specify the circumstances that would

make the sentence true. To give the meaning of a command, such as "Wash the dishes by noon," would be to give the state of affairs in the world that would satisfy the command. The theory of meaning need not perform this massive task of stating conditions of satisfaction for every possible sentence, but it must be able to do so in principle. What is required is a recursive theory that shows how we can build up larger true or satisfied units from smaller true or satisfied units, which are taken as semantic primitives. And, on the assumption that there is a relatively small number of basic logical connectives for relating the semantic primitives, such a recursive theory would not be an impossible task.

5. Any analysis of meaning must be given ultimately in terms of literal concepts. There can be no irreducibly metaphorical or figurative concepts in the final analysis. This restriction is required by the Objectivist thesis that basic concepts pick out objects, properties, and relations in the world completely independent of human beings and their processes of understanding. The argument is simple: the basic concepts into which meaning is analyzed must map definite, discrete, and fixed objects, properties, and relations. This requires concepts that are definite, discrete, and fixed. Such concepts are called "literal." Metaphorical projections are not the sort of structures that could map onto the world so described, for they involve category crossings that do not exist objectively in the world. Objectivists grant that metaphor and other imaginative projections play a role in discovery and invention and that they may even be necessary for our understanding. Nevertheless, any Objectivist analysis of meaning must ultimately be reducible to literal concepts and propositions, and the structure of rationality cannot be irreducibly figurative.

6. It is important to notice that the Objectivist theory of meaning is compatible with, and supports, the epistemological claim that there exists a "God's-Eye" point of view, that is, a perspective that transcends all human limitation and constitutes a universally valid reflective stance. For example, meanings are treated as relations among symbols and objective states of affairs that are independent of how any individual person might understand or grasp those relations. It is alleged that there is a position *outside* this relationship from which the fit of symbol and thing can be judged. Concepts are said to stand in logical relationships as a matter of objective fact, regardless of how humans might comprehend them or organize them into systems. Conceptual structure is thought *not* to be determined by "subjective" processes of cognition on the part of persons trying to grasp the mean-

ing of a concept. It is often claimed that it is the philosopher's exalted task to deal with these "objective" meanings, concepts, and logical connections, while it is left to psychology to study the "subjective" cognitive operations that govern how we grasp concepts and how they "make sense to us."

I am not claiming that every truth-conditional semantics must assume that we can *achieve* such a God's-Eye-View; nevertheless, Objectivism in its strong version is clearly committed to the existence of such a perspective, since it presupposes an objective relation of language to mind-independent reality.

Associated closely with the Objectivist orientation toward meaning is its correlative view of rationality:

THE OBJECTIVIST VIEW OF RATIONALITY

1. Reasoning is a rule-governed manipulation of connections among symbols. It consists in a series of operations in which connections among symbols and rule-governed combinations of symbols are established and traced out according to various logical canons or principles. Such reasoning, for instance, might have the form, "Something X being given, something else Y follows by a rule of deduction."

2. The core of rationality is formal logic. Concepts can be joined together to form propositions of various sorts, and there is a limited number of "logical connectives" (*and, or, if-then,* etc.) that define the possible relations, either of concepts to one another (as in "red *and* blue," "red *or* blue," etc.) or of propositions (as in "It is raining *and* it is cold"; "It is raining *or* it is not raining"; etc.). There are also "rules of inference" for deciding whether the connections between propositions are valid or not.

3. As with the Objectivist view of meaning, so here, too, rationality is essentially disembodied; it consists of pure abstract logical relations and operations independent of subjective processes in the reasoner's mind. It is usually granted that images, metaphorical projections, and analogical leaps may be part of our mental processes in making novel connections, thinking up new arguments, and drawing out conclusions from premises. But such cognitive processes are regarded by Objectivists as mere "psychological" processes irrelevant to the logical reconstruction and evaluation of rational judgments. Thus, a distinction is often drawn between an alleged *context of discovery,* involving psychological processes for generating new ideas or theories, and a *context of justification,* in which we reconstruct the logical relations of a theory in order to show its grounding and certitude. The way in which

the idea or theory was thought up doesn't matter in the context of justification. Reason is regarded as consisting only of operations tracing out formal relations that obtain among symbolic representations (words, mental representations, concepts, propositions), and this is supposed to be independent of any particular content of those representations that is tied to our processing of them. Of course, the content or material that we are reasoning about will affect the nature of the conclusion drawn, but this in no way affects the *structure of rationality as such.*

4. The idea of a transcendent rationality also supports a God's-Eye-View account of knowledge, parallel to the version reinforced by the Objectivist account of meaning. It is assumed that human beings can somehow "plug into" a transcendent, autonomous rationality that stands beyond all historical developments. Reason is what it is at all times and all places, regardless of the person doing the reasoning. This essential, fixed structure of rationality is the basis for claims to transhistorical and a priori truth. It is even more difficult here (than with the theory of meaning) to see how such a picture can avoid a commitment to a God's-Eye-View, since reason is regarded in essentialist and transtemporal terms.

The Philosophical Context of Objectivism

The roots of the Objectivist views of meaning and rationality lie deep within our cultural heritage. Let us explore briefly the way in which these views are reinforced and made to look plausible by certain recurring tendencies in the Western philosophical tradition. In particular, I want to identify a tendency, manifested even by philosophers of radically different persuasions, to insist upon the existence of a certain gap in human experience that gives rise to a series of repeated dichotomies (either ontological, epistemological, semantic, or logical in nature). Roughly, the gap is thought to exist between our cognitive, conceptual, formal, or rational side in contrast with our bodily, perceptual, material, and emotional side. The most significant consequence of this split is that all meaning, logical connection, conceptualization, and reasoning are aligned with the mental or rational dimension, while perception, imagination, and feeling are aligned with the bodily dimension. As a result, both nonpropositional and figuratively elaborated structures of experience are regarded as having no place in meaning and the drawing of rational inferences.

Because my purposes are constructive—to delineate the outline of a

theory of embodied imagination—I do not want to delay this project with a lengthy historical survey that documents the origin and development of Objectivist thinking.[1] It is important, however, to have some understanding of the general cultural orientation that has led to the devaluation of imagination in theories of meaning and rationality. For our purposes, the two most decisive programs in Western philosophy have been Cartesianism and Kantianism, both of which are built upon theories of knowledge.

Descartes was obsessed with the idea that, in order to refute skepticism, knowledge must rest on something that is certain. In his *Discourse on Method* (1637) he expresses his concern that, in spite of centuries of concerted effort, we are no closer to establishing an unshakeable foundation for knowledge. He concludes that the problem is a failure of *method*. What is needed is something like a general mathematical method that could guarantee the certainty that ought to be the mark of real knowledge.

Descartes argued that there is, in fact, something we can know with indubitable certainty, namely, *that* we exist as thinking beings. He concludes that what we know most intimately is *not our bodies* but the structure of our minds (i.e., the nature of our rationality). The world consists of physical substances (bodies) and mental substances (minds). We humans are distinguished by our mental capacities; in particular, by our *rationality*. We realize our true selves best, therefore, when we are engaged in rational activity.

So far, this is only an articulation of a view of the mind/body split that is deeply rooted in certain interpretations of the Judeo-Christian tradition. In some developments of this tradition humans are distinguished as the sole creatures made in the image of God, which means that they possess the Divine spark of rationality that sets them off from brute animals. Whenever someone reasons correctly (including correct willing) they are said to actually *participate in* God's reason, that is, they transcend their physical embodiment by plugging into a transcendent rationality. They realize their true nature as a disembodied mind or soul.

This Cartesian picture of mind, body, and knowledge creates two fundamental gaps or splits in human experience, one ontological, the other epistemological. First, on a Cartesian account, the body does not play a crucial role in human reasoning—rationality is essentially disembodied. Rationality may make use of material presented by the senses, but it is not itself an attribute of bodily substance. This gives rise to a basic ontological gulf between mind and body, reason and

sensation. The ontological problem, then, is to find some way to bridge this gap, to connect mind and body.

Second, there is an epistemological commitment that has established a problem for all succeeding discussions of knowledge. For Descartes, what the mind knows are its own representations, or ideas. Knowledge consists in grasping clearly what those ideas involve and how they are related to each other. Descartes' famous "method" for achieving certain knowledge is a "universal mathematics" which would allow us to trace out all of the possible connections among our ideas in an orderly and complete fashion.[2] But this view of knowledge raises a serious difficulty: if what we know are our own ideas, then how can we ever be sure that they do indeed accurately represent what exists in external reality? This is the problem of skepticism, and it is based, in the Cartesian tradition, on the epistemological gap between ideas and aspects of external reality that they are "about." Descartes' answer to this problem—that God is no deceiver and thus guarantees a connection between our ideas and the external world—satisfied almost no one. What was wanted was a nontheologically based account of knowledge that could answer the skeptical challenge.

Kantianism can be seen as an attempt to avoid the skeptical problem confronting Cartesianism. While Kant rejected the notion that one could prove the existence of a substantial soul or mind independent of the body, he still wanted to make sense of the Cartesian distinction between mental and physical attributes. For Kant this dichotomy survives in his rigid separation of the cognitive faculties into two essentially different components: the *formal*, conceptual, and intellectual, on the one hand, and the *material*, perceptual, and sensible, on the other. In Kant's influential account of knowledge, the material component is identified with bodily processes, while the formal component consists of spontaneous organizing activities of our understanding. So, even though there is no commitment to a Cartesian substantial mind, there is still a fundamental Cartesian tension between the two ontologically different sides of our nature: the bodily and the rational.

Kant argued that genuine empirical knowledge must be knowledge of objects that we all can experience, objects subject to universal laws. In order to have such an "objective" experience, there must be some material given from outside us to our senses, and this content must be organized by patterns of thought given by our mind. The bodily capacity for receiving these sense impressions, *sensibility*, supplies us only with "particular" representations (e.g., images, percepts) given

to our senses by whatever objects we are experiencing. The capacity for conceptualizing these contents of sensibility, *understanding*, is an intellectual faculty that gives "general" representations (i.e., concepts) under which the particulars of sensation can be organized in a meaningful manner. The result of formal concepts structuring the material of sensation is an experience of objective realities everyone can share, insofar as they share the same general concepts. It is because certain concepts are shareable, Kant insists, that objective knowledge of our physical world is possible.

Kant thus claims to solve the skeptical problem of how we can know that our concepts correspond to objective reality as follows: what we can know of the external world is what we have received from it, as filtered through and structured by our consciousness. We cannot know things as they are in themselves but only as they appear for us, subject to the universal structuring activity of human consciousness.

In answering a certain form of skeptical objection, however, Kant only reinforces a number of Cartesian dichotomies that give rise to a series of fundamental problems. As I have noted, there is an overly rigid dichotomy between the *conceptual* and the *bodily*. Concepts are products of our understanding, which is formal, spontaneous, and rule-governed; sensations are bodily, given through our sensibility, which is material, passive, and lacking in any active principle of combination or synthesis. For Kant the real work of cognition takes place in the formation of concepts, in their conjunction in propositional judgments, and in their employment to create coherent meaning structures. Imaginative, preconceptual processes are given a role in organizing perceptual input, but they are excluded from our *thought*. In short, the rule-governed nature of meaning is the result of conceptualization and propositional judgment; and rationality consists chiefly of logical operations performed upon concepts and propositions.

The problems generated by this strict formal/material dichotomy are especially evident in Kant's frequent blurring of the concept/sensation distinction in his account of *imagination*, which is a capacity to mediate between concepts and sense impressions. Imagination is described as a faculty for combining sense impressions into a unified image that can be "brought under a concept." For example, in my perception of a dog, Kant thought that imagination ordered various sense impressions (e.g., the feel of fur, four legs, a trunk, long teeth, etc.) into a single perceptual experience (e.g., a unified image of a furry creature), such that I can then recognize it (conceptualize it) as a dog. Understood in this way, imagination would appear to be just the

bridge needed between the formal and the material sides of cognition. But as we shall see in Chapter 6, Kant could never adequately explain the workings of imagination, for he vacillated between treating it as a formal, conceptual capacity (tied to understanding) and treating it as a material, sensible capacity (tied to sensibility). He seems occasionally to realize that imagination is both *bodily* and *rational*, but his adherence to the previously mentioned dichotomies prevents him from drawing this reasonable conclusion. I shall urge later that only by recognizing this interactional character of imagination can we hope to explain the nature of meaning.

There is a second Cartesian legacy that Kant handed down to his successors, namely, a view of reason as transcending the body. Human rationality consists of the formal element of cognition, distinct from any particular material content of sensation, any set of images, any emotions, or any bodily processes. And, while, contra Descartes, reason does not reside in a substantial mind, it has an autonomous character that insures its independence from any bodily determinations. In short, Kant reinforces an unbridgeable gap between reason and bodily experience.

The central moral of this brief story is that certain Cartesian and Kantian themes have reinforced a recurring set of ontological, epistemological, and logical dichotomies that are profoundly influential on Western ways of thinking; and these rigid dichotomies have made it extremely difficult to find a place in our views of human meaning and rationality for structures of imagination. Imagination seems to exist in a no-man's-land between the clearly demarcated territories of reason and sensation. I have no intention of denying that these dichotomies do capture important distinctions, but I want to urge a less exclusivist interpretation of them, a reading in which imagination plays a central role in both realms.

Objectivist Themes in Recent Theories of Meaning

It is against the background of this general Objectivist orientation that our most influential semantic theories have emerged into prominence. I suspect that none of the programs flourishing in semantics today accepts *all* of the Objectivist tenets in just the form I have expressed them. My contention is rather that Objectivism provides the primary context in which our most popular theories of meaning and rationality are articulated. Because of this, it is no accident that these theories are unable to give proper attention to structures of imagination.

To aid in understanding the limitations imposed by Objectivist assumptions, I will briefly outline four major views that command considerable attention today, which operate on at least *some* of these assumptions. I will indicate how their Objectivist leanings have led them to undervalue, or even ignore, the kinds of semantic phenomena that are the central focus of this book. This will highlight the need for an enriched view of meaning and rationality that goes beyond any currently influential theory.

Frege

Frege's impact on contemporary semantics and philosophy of language cannot be overestimated. All of the major approaches are either elaborations of, or challenges to, Fregean themes. His famous distinction between "sense" (*Sinn*) and "reference" (*Bedeutung*) has come to define an entire Objectivist tradition in the philosophy of language and in linguistics.[3] In Frege's terminology, a *sign* (such as a word) has a public meaning, its *sense,* by means of which it picks out a *reference.* For example, the word "mother" is a sign with a certain sense or meaning (e.g., maternal parent) that can, in a specific context, refer to an object (e.g., my mother). Now, in order to capture this public and universal notion of meaning, Frege thought it necessary to identify three ontologically distinct realms: (i) the physical, consisting of physical objects such as chairs, written words, spoken sounds, and all spatially extended objects; (ii) the mental, containing what he called "ideas," "images," and other mental representations; and (iii) a realm of thought, consisting of objective senses, numbers, propositions, concepts, and functions. Frege thought he needed this strange third realm to insure the objectivity of meaning and the universal character of mathematics and logic. He rejected as "subjectivist" any suggestion that all of these "objective" entities might exist merely at the mental level, which he regarded as peculiar to individual minds.

Thus Frege's search for a purely objective realm takes him even beyond Kant, who is regarded as too subjectivist, too psychological, because he focuses exclusively on structures of human consciousness. In quest of this absolute realm, Frege is forced to distinguish sharply between objective *senses,* on the one hand, and subjective *images* or *ideas,* on the other, which exist only in the mind that conceives them and cannot have universal validity.

The reference and sense of a sign are to be distinguished from the associated idea. If the reference of a sign is an object perceivable by the senses, my idea of it is an internal image, arising from memories of sense impressions which I have had and acts, both internal and external, which I have performed. Such an idea is often saturated with feeling; the clarity of its separate parts varies and oscillates. The same sense is not always connected, even in the same man, with the same idea. The idea is subjective: one man's idea is not that of another. There result, as a matter of course, a variety of differences in the ideas associated with the same sense. A painter, a horseman, and a zoologist will probably connect different ideas with the name "Bucephalus." This constitutes an essential distinction between the idea and the sign's sense, which may be the common property of many and therefore is not a part or a mode of the individual mind.[4]

One centrally important consequence of Frege's rigid separation of the sense and reference of a sign from any "associated ideas" is that the reference relation of a sign to things in the world is completely objective. On Frege's view, we can move *directly* from the sense to its corresponding reference, that is, from public meanings to specific states of affairs in the world. Ideas, images, bodily processes, and acts of imagination are held to be subjective and completely irrelevant to the specification of meaning and reference. It is their subjective character, their existence only in individual minds, that makes them unfit to serve as objective and universally shareable senses and thoughts.

The upshot of this view for our concerns is that Frege treats meaning and rationality as if they were entirely independent of human imagination and structures of bodily experience. There is the sign, the sense, and the reference in a direct linkage from word to world. Human cognition and understanding are bypassed as irrelevant to objective meaning relations. All mental processes (ideas, images, imaginative projections) that might explain how it is that a sign could come to connect up with the world, and with other signs, are excluded from consideration. This is the Objectivist view of meaning in its purest form.

Model-theoretic Semantics

Perhaps the most prominent contemporary elaboration of such Fregean themes is a new program called "model-theoretic semantics." The project of model-theoretic semantics is to give a precise account of how abstract symbols can be made meaningful by virtue of their correspondence to things in the world.

The view takes from mathematics the notion of a model as a set-theoretical structure consisting entirely of entities and sets built out of those entities. Model-theoretic semantics assumes that the actual world (as well as any possible world) can be placed in one-to-one correspon-