Preface

The basic premise that informs this book is that human experience cannot be omitted from a scientific explanation of how the mind/brain works. The intrapsychic complexities of human psychology, as observed through introspection and the empathic knowledge of other minds, must be added to the third-person perspective of cognitive psychology and neuroscience. As a psychoanalyst, this is what I have attempted to do.

My interest in neuroscience was stimulated by a completely fortuitous encounter with Gerald Edelman’s book *Neural Darwinism*, which described his theory of neuronal group selection. I was attracted to his selectionist viewpoint and his global theory of the mind/brain, which seamlessly moved between neural and mental concepts. More specifically, I was excited to discover that Edelman’s view of memory as a recategorization is very similar to a theory of memory that Freud had proposed in 1896 and unfortunately later ignored. I subsequently made use of Edelman’s selectionist theory of memory in my book *Other Times, Other Realities* (1990). There I understood the familiar repetition compulsion to be a failed attempt to recategorize the
affective memory of traumatic experiences. In my book *The Private Self* (1993), I became interested in the problem of the biology of meaning when I recognized that the unconscious mind can be nothing other than a neurophysiological process, but that meaning is in some unknown fashion potentially present as a latent property.

How meaning exists in the unconscious mind as a potential property became clearer to me as a result of the contributions of the linguist George Lakoff and the philosopher Mark Johnson. I owe to them the crucial observation that metaphor is primarily a form of cognition rather than a trope or figure of speech. Further, metaphor as a cognitive tool can operate unconsciously, so that a metaphoric process is one aspect of the unconscious mind. Lakoff and Johnson also emphasized, as I shall do in this book (chapter 4), that metaphor finds its source originally in the body, and that the body, to paraphrase Merleau-Ponty, is an “experiential structure.” If we combine Edelman’s selectionist principle with Lakoff and Johnson’s unconscious metaphoric process, metaphor becomes the selective interpreter of corporeal experience.

Another organizing principle of this book is the assumption that different domains of the mind/brain operate in accordance with different “rules.” The algorithmic certainty, point-to-point mappings, and invariance that characterize the “computations” of the visual cortex cannot be applied to the brain’s construction of meaning. I join with many other critics who have also observed that algorithms cannot account for thinking in images or fantasy, for error and novelty, or for the fact that the mind can imaginatively bootstrap itself from within. The construction of meaning is not the same as the processing of information; meaning cannot be “represented” by a formal symbolic code. Therefore,
I question the neo-Cartesian concept of representation that has become a basic assumption for many in the cognitive-science community (chapter 1). As a viable alternative to the idea of representation, I turn to Gerald Edelman’s and Jean-Pierre Changeux’s selectionist theories and the nonlinear dynamics implicit in Walter Freeman’s concept of unconscious intentionality.

The construction of meaning requires the use of emotions and feelings as markers of value (chapter 8). Inasmuch as the limbic system, the emotional brain, is of ancient origin, there are homologies between emotions in humans and other species. Therefore, a consideration of evolutionary continuities and discontinuities is an ever-present subtext throughout this book. Unlike other primates, we can delay the expression of emotion, but we, like other primates, are also subject to uncontrollable rages. The amygdala may be the structure that mediates fear in all mammals, including ourselves, but the interpretation of this emotion is another matter. What is singularly human is not only our possession of language but also our capacity for generative imagination, which in turn relies upon the use of metaphor as a cognitive tool. By means of metaphor, feelings can be imaginatively interpreted, displaced, and transformed. Feelings can be “sublimated,” which is an exclusively human facility (chapter 7).

The question of evolutionary continuities and discontinuities also appears in the relationship between consciousness, feelings, and the self (chapter 5). I assume, as have others, that mammals are conscious and are conscious of their feelings. Consciousness of feelings may constitute a “protoself” or a “biological self” that functions as a monitor of homeostasis and a consciousness of somatic boundaries so that self and nonself can be distinguished. But very few species other
than ourselves have a capacity for recognizing oneself in a mirror. Whether we alone as a species have the capacity for self-reflection, which differs from self-recognition, is a controversial and unsettled issue. I will also examine the question of whether higher primates, such as chimpanzees, possess a theory of mind that can attribute a complex intentionality to others (chapter 9).

In chapter 10, I explore the implications of “mirror neurons” and present several speculative theories regarding the coevolution of metaphor and language. In the closing chapter (chapter 11), I examine the significance of experience in relation to the philosophical mind/body problem. The experience of consciousness should be distinguished from the functions of consciousness. If one accepts this distinction, one must also accept that an epistemic pluralism is needed if we are to achieve a better understanding of the functions of the brain.