

Feeling, Thinking, and Talking

The way the brain, body, and mind interact with social structure to shape communication has so far not received the attention it deserves. This book addresses this gap by providing a novel account of communication as a social, biological, and neurological force. Combining theories from communication studies and psycholinguistics, and drawing on biological and evolutionary perspectives, it shows how communication is inherently both biological and social, and that language and the neural systems that support it have evolved in response to a complex social environment. It introduces a clear set of terms based on current research and illustrates key concepts using real-life examples from everyday conversation – speaking to a number of current debates around the evolutionary and biological basis of language and the relationship between language, cognition, and environment. Thought provoking and engaging, it will change the way we think about the relationship between communication and cognition.

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*How the Embodied Brain Shapes Everyday
Communication*

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Preface

The Genesis and Intentions of This Book

I entered graduate school in 1983 with an interest in the human mind/brain and how it interacts with other humans to construct and discover meaning. As I learned the theories and methods of the empirical/behavioral approach to communication taught at Stanford, I was repeatedly dismayed at the neglect of the cognitive processes through which messages are created and understood, a neglect that was then common to all the social sciences. At that time, the brain was still considered an impenetrable “*black box*”: The proper conduct of inquiry was to study the relationship of “*inputs*” to “*outputs*,”¹ without futile speculation about what might happen between.

At that time, in the early 1980s, computation, and particularly artificial intelligence (AI), was entering its glory days. I had what now seems like the good fortune to enter the communication discipline without having ever taken a single course in the subject. This has allowed me to approach the subject matter innocent of the taken-for-granted assumptions and verities, to read the research and examine the data on their own terms. I was especially fascinated by theories that examine mind and its interaction with meaning. I had already become first enthusiastic, then disappointed by Freud, then by Jung. One by one I became intrigued by, adopted, then became disappointed by information theory, AI,² and other instantiations of what I have come to think of as “the *computer metaphor*.” Like many other students and scholars of the era, I was deeply impressed with Shannon and Weaver’s (1949) exposition of information theory, but I disregarded Wilbur Schramm’s advice to “read Weaver first.” When I finally did read Weaver, the contrast between his speculations and Shannon’s elegant mathematics led me to disillusionment (and my first academic publication,³ which later led to my first book⁴). I explored several

¹ Throughout the book I indicate metaphors, when their status as metaphors is relevant, by italics within quotation marks.

² In my first year at Stanford, I audited a course in Lisp, in which the ability to program a computer to respond to even the most simple verbal instructions was celebrated as a major achievement. My resulting skepticism was reinforced by reading Winograd and Flores’s (1986) argument against conflating AI with cognitive theory.

³ Ritchie (1986). ⁴ Ritchie (1991).

other simplifying (and mechanistic) models and computational methods, including various versions of co-orientation theory and “mental spaces.”

I came to realize that all these approaches disregard the fact that messages are both originated and understood by evolved biological brains, though it took many more years of reading and study to realize the extent to which a biological brain is embedded in a biological body, how different a biological brain is from a computer, and how important that difference is. At about that same time, I encountered the idea of perceptual simulation in Shepard’s⁵ research on mental rotation and began to read all I could find on this and related topics. I also encountered Lakoff and Johnson’s⁶ theory of conceptual metaphors, though it would be over a decade before I was able to realize fully what could be done with it. Along the way, I also became deeply skeptical of one-variable explanations for human experience and behavior, communication in particular. Competition, power, sexuality all play a role, as do cooperation, curiosity, play, empathy, and imagination – among many other factors.

My dissertation, applying an abstract co-orientation model to social power, convinced me that the social and cultural context is central, not incidental. Working with mentors – especially Steve Chaffee, Don Roberts, and Mary Anne Fitzpatrick – convinced me that social interaction is a crucial component shaping both the origination and the interpretation of signals, a component none of the linear models I had found so intriguing could successfully incorporate. When Ray Gibbs introduced me to Lynne Cameron and Dynamic Discourse Analysis, the pieces began to fall into place. Robin Dunbar’s⁷ evidence that language is fundamentally about social relationships rather than ecological information provided the final catalyst.

The cover image reproduces a photograph of two golden monkeys grooming.⁸ This activity, which is common to many mammal species, is a vital feature of primate social life, and primates of many species spend much of their waking hours grooming or being groomed. Grooming serves to recruit and sustain supportive relationships, appease higher-ranking individuals, or mollify a lower-ranking individual who has been defeated in a quarrel. Grooming (like sexual interaction) releases endorphins that lead to intense pleasure, even euphoria, which strengthens social bonds. Dunbar⁹ claims that language/conversation developed primarily in response to the pressure of living in large and increasingly complex social structure. The use of language in conversation allows an individual to “groom” three others at one time,

⁵ For example, Shepard and Metzler (1971). ⁶ Lakoff and Johnson (1980).

⁷ Dunbar (1996, 2003).

⁸ I took this photo in Rwanda in 2019; it was the primary purpose of the visit to that lovely, tragic nation.

⁹ Dunbar (1996, 2003).

thereby tripling the size of potential social networks. Primate grooming is not even remotely symbolic; it is physical and chemical. Likewise, the import of human talk is often only nominally symbolic; it is also primarily chemical (endorphins again), and much of the time it is physical, by way of physical proximity, direct touch, and synchronization.

While at Stanford, I also encountered Maturana and Varela's¹⁰ theory of *autopoiesis*, but, like Conceptual Metaphor Theory, I did not yet know what to do with it. More recently, I encountered Damasio's recasting of very similar ideas in his theory of *homeostasis*, which incorporates several decades of additional neurological research, along with Damasio's own clinic-based research on the importance of emotion to reasoning. Damasio's explication of homeostasis and the contribution of chemical as well as neural signaling to homeostasis provides a large part of the framework for this book.

As I have read, studied, and conducted research into these phenomena, I have come to recognize that *cognition* is much more complex than I had ever imagined. It happens in the brain, but not just in the brain. It involves processes of neural activation that are based on waves of electromagnetic membrane depolarization (not the same as the electrical circuits in a typical digital computer), along with biochemical processes that affect various bodily organs directly even as they are enhancing or suppressing neural activity. It involves the entire body's interactions with the physical and social environment, and much of what constitutes cognition takes place *in* these interactions. All this – neural system, biochemical processes, social relationships, and interactions with both social and physical environment – is the result of biological evolution and, to an increasing extent, cultural evolution. The difference between *evolved* organisms and *designed* digital computers and electronic communications circuits is not incidental; it is vital to understanding both.

Dunbar convinced me that the “transmission” or “replication” of *information* is not central to communication. Although information has become increasingly important to human interactions with the physical and social environment, the primary function of communication continues to be *relationship*, the reproduction and elaboration of the social environment and each individual's negotiation of an identity within the social environment.

The Purpose of the Book

I first conceived of this project, early in graduate school, with the ambitious intention of constructing and presenting a theoretical perspective on human

¹⁰ Maturana and Varela (1980).

communication based on biologically informed cognitive science. That initial project has inevitably expanded and transformed itself to the point that it scarcely bears any relation to the ideas and insights with which it began. Nonetheless, it still seems accurate to say that the purpose of this book is to propose a foundation for thinking about and studying human communication that is cognitive and biological as well as social.

During my graduate studies, I became aware how Communication, to an even greater extent than other social sciences, has grown and developed by the accretion of new concepts, new theories, and new research findings onto a relatively stable basic model. Hardly anyone in the social sciences cites Shannon and Weaver any more, but the source-channel-receiver model and the “*signal transmission*” metaphor it supports still underlie much of contemporary thinking about communication. This model, along with the “*computer*” metaphor for mind, permeates the technical language we use, and reinforces a model which I believe to be fundamentally obsolete – and misleading. As I have thought, written about, and taught some of these concepts over the years, I have concluded that introduction of a new way of thinking about communication based on contemporary neurological and social research requires that we clear away this metaphorical language and the old ideas embedded in it. Accordingly, a second purpose of the book is to critique this obsolete and misleading terminology and introduce a more objective and accurate, though austere, way of talking and writing about communication that is consistent with current biological and cognitive research.

The book begins, in Chapter 1, with a brief discussion of *embodiment* and *homeostasis* as a basis for a critique of terminology. The next seven chapters, constituting the first half of the book, present the concept of homeostasis and the neurological research supporting it, and develop it into an account of cognition (thought, emotion, and relationship). The second half of the book develops some of the implications of this account for basic communication processes, focusing in particular on conversation and figurative use of language in conversation.

I have acknowledged in passing several of the mentors and colleagues who have inspired and guided my thinking; I owe a deep debt of gratitude to all of them. I also owe a debt of gratitude to present and former students who have read and commented on this (and previous) books and articles; whenever I teach this material, I invariably feel that I learn as much from my students as they learn from me. I am fortunate to teach in a university with a somewhat older and more mature student population, most of whom work at least half time and many of whom have families as well as careers, and engage with the urban environment on a daily basis. They bring that “real world” with them into the classroom, and it provides an invaluable grounding for my theoretical as well as my practical thinking. I must mention two students in particular,

William Harvey, whose term paper on face-work greatly enriched my discussion of that topic, and Elise Stinnett, whose “student’s eye view” of the book inspired wording changes and clarifications in several sections of the book during the final copyediting phase. My neurologist friend and hiking companion, Scott Emery, has generously explained basic concepts of neuroscience to me and corrected at least some of my more egregious errors of understanding.

Finally, I am as always indebted to my gracious and helpful editors, Helen Barton and Isabel Collins, and to the anonymous reviewers whose comments and suggestions have proven invaluable. The remaining errors and omissions are, of course, entirely my own responsibility.