Introduction

The implications are, quite literally, mind-bending. At birth, the human brain weighs a mere 25 percent of its eventual adult weight. This is a curious state of affairs for the brainiest of the primates. A macaque, by contrast, is born with a brain that is 60 percent of its adult weight. Its neural growth has already slowed dramatically while still in utero. Even our closest primate relation, the chimpanzee, is born with about 45 percent of its brain weight already developed, and its brain growth slows down shortly after birth. Chimps mature both physically and socially years ahead of their human cousins.[1]

Among primates, only the human brain continues to grow at fetal rates *after birth,* and the frantic pace of this postpartum neural building boom continues for the first two years of life before it begins to show any signs of abating. The cortex's natural insulation, the fatty myelin sheath that grows about the axons and permits efficient conduction of electrical impulses, is not completely formed until about the sixth year of life. Only at puberty is the physical maturation of the human brain complete. After that, neural development continues throughout life. But this is, strictly speaking, more a matter of "mind" than of brain.

This delayed maturation of the human nervous system is paralleled by a general developmental retardation of the human child compared with other primates. Humans also show a tendency to both physiological and behavioral neoteny, retaining juvenile traits in adult forms of both anatomy (i.e., head-body ratio) and behavior (i.e., playfulness).

This combination of premature birth and retarded development means that fully three-quarters of the human brain develops outside the womb, in direct relationship with an external environment. Evolution has equipped our species with an "ecological brain," dependent throughout its life on environmental input. This is a factor of extraordinary significance for cultural anthropology and cognitive psychology alike.

The human nervous system has presumably been preadapted by evolution for many perceptual skills. Take, for example, common human visual abilities like binocular vision, depth perception, back and forth translations between three-

dimensional visual images and two-dimensional representations, mental rotation of imagery, or perceptual coordination of sight, sound, and touch. Though the human sensorium seems to be genetically prepared for such visual acrobatics, actual feats of perception must be brought to life through an individual's concrete interactions with the world. People blind from birth who eventually gain vision through medical procedures can immediately "see" by means of their eyes but have to learn by practical experience to "perceive" actual forms and to coordinate perceptual relations between sight and other senses like touch.

The eco-logical brain does not develop simply in a natural environment. Our nervous system unfolds in relation to two quite different kinds of environment, the one more "natural" and the other more cultural. Basic cognitive skills like perception, classification, and inference have evolved in the species and develop in individuals as ways in which a particular kind of body (a human body) interacts with the contours of a particular kind of physical world.

Ecological psychology studies ways in which the human sensorium is preadapted to the "affordances" (i.e., the interactive possibilities and constraints) of such a generalized human life-space. Just as a toddler's foot and leg muscles must learn to balance and carry an upright body over a complex and ever-changing terrain, so the human sensorium has learned to "read" its physical environment in the (evolutionary) process of interacting with it.

At the same time, neural development also takes place within very particular and variable *sociocultural environments*. Cross-cultural psychologists have demonstrated that even basic aspects of perception are influenced by the way that experience is "modeled" by a particular sociocultural environment (Cole and Scribner, 1974). These "cultural models" might be usefully thought of as "cultural affordances," equivalent to the physical affordances of the natural environment.

For example, individuals growing up in cultures lacking two-dimensional realistic art must learn how to recognize images when presented with photographs. Similarly, there is evidence that people raised in "carpentered environments" (with lots of measured, regular angles and straight lines) tend to be fooled by certain optical illusions in a way that is not generally true for those raised in visually "natural" environments lacking artificial lines and angles and with no experience of two-dimensional representations. One cross-cultural psychologist who has studied cultural differences in numerous perceptual skills concluded that "ecological demands and cultural practices are significantly related to the development of perceptual skills. . . . In some sense, cultural and psychological development are congruent (Berry, 1967:228, quoted in Cole and Scribner, 1974:85).

So an important part of the evolutionary heritage of the sapient hominid is a nervous system that has evolved under the sway of culture (in general) and which develops in each individual under the sway of *a* culture (in particular). The human nervous system appears to be dependent on external models or programs for normal operation, and this notion of models has significant importance for anthropologists and psychologists alike.

Both cognitive psychology and cultural anthropology have employed the concepts of models and schemas. Since Bartlett's classic work on memory, psychologists have taken the Kantian notion of mental schemas or models as important components of any account of memory and learning. For their part, cultural anthropologists since

Benedict's early writings have employed a notion of "cultural patterns" (also called cultural templates, models, and schemas) to describe specific organizations of cultural artifacts (including symbolic artifacts) and the psychological patterns derived from them. While the anthropologist's uses of these concepts were derived from psychology, these terms came to represent *both* "external" institutions (culture-in-the-world) *and* "internal" mental representations (culture-in-the-mind). Little attention was given to the complexities of their relationship.

The idea of a "cultured brain" has some far-reaching implications not only for how anthropologists need to think about culture but also for how psychologists and philosophers need to think about the mind. This is not simply the problem of thinking about culture *and* mind but specifically the challenge of conceptualizing culture *in* mind. This is an ethnographic conception of the mind.

QUESTIONS ABOUT PSYCHIC UNITY

This book is the fruit of a very personal journey into this relationship between culture and mind. Long before I knew anything about anthropology, curiosity about cultural differences drew me far from home. Years later it was the question of "the psychic unity" of our species—the degree to which we could characterize human psyche as essentially the same despite the effects of cultural differences—that brought me to anthropology for answers. The original appeal of cultural differences for me was, to be sure, rooted in a romantic attachment to the exotic "other."

It was not until 1969, and my arrival in Western Samoa as a Peace Corps volunteer, that I had a serious encounter with a culture other than my own. Here I experienced not just *a* culture but the *idea of culture,* which I had only dimly understood. I had finally achieved what I had long wanted, to live among people very different from myself. But I was not at all prepared for the reality of cultural difference. What had seemed so appealing from afar was now incomprehensible and disturbing.

Early on I encountered the "psychic unity" puzzle. Back then, of course, I had no such label for what was troubling me. Were these people among whom I was to live for five years of the same "mind" as myself? Did they think like me and feel what I felt? Could I make sense of their reactions to things and predict what would happen next in any given situation? How were these differences related to those I had experienced between different individuals in my own culture? Back home, these issues had never really come up. Yet here the cultural framework of thought, feeling, and action suddenly seemed obvious. And it was everywhere. Having never before experienced such an apparent gap between my own reactions and expectations and those of the people around me, my first intuition was that these folks had a mind-set unlike any other I had ever encountered. I struggled for almost a year trying to make sense of a social and cultural world of which I had pitifully little understanding and even less control. The psyche, I concluded, was "cultured" all the way down and could never be adequately characterized apart from the profound influences of culture.

But the questions about mind and culture were not to be so simply resolved. A year passed, then two. I went home to pursue graduate studies and returned to Samoa

three years later armed with a little training in anthropology. Gradually my Samoan had improved and windows began to open for me onto a world I had not imagined existed. I paid more attention to patterns of thought and action that had begun to make themselves known to me. I began to sort things out and make sense of my surroundings. "The Samoan mind" was no longer such a practical problem for me. In fact, I began to notice how much Samoans differed among themselves in ways I could never have seen earlier on. I came to understand that Samoans often experienced the limits of their own culture, and that they sometimes felt great ambivalence about their own cultural forms. Great self-parodists, Samoans could make fun of themselves, as if they saw themselves from the outside. When we laughed together like this, I began to feel at home in Samoa.

The gradual blurring of the boundary between my mind and theirs meant that I was changing. I had begun to intuit the shape of complex cultural patterns—what I would someday call "cultural models"—patterns that governed conventional behavior and that Samoans largely took for granted. I began to understand how time and space were organized and what I had to do to move through them without making people laugh or squirm uncomfortably. I came to understand that, for Samoans, many emotional responses were orchestrated by local emotion models different from those I was used to. Samoans also had their own ways of explaining things, what we might call local "causal theories," that eventually began to make sense to me. A significant realization was that the ways Samoans talked about people suggested a conception of the person quite different from that which I was carrying around in my own head. I found myself walking differently and sitting differently as my body responded to new ways of understanding the "meaning" of posture. And so on.

What I learned in those first years abroad would radically alter my understanding of the psychic unity problem. The issues seemed far more complex and puzzling than I had assumed. I found myself constantly flip-flopping on the matter of psychic unity. Sometimes I was certain that Samoans had a mind of their own. At other times I was equally convinced that we were all of a common mind. I eventually came to realize that I was not really flip-flopping. I was just experiencing different aspects of the mind. The longer I lived in Samoa, the more I was able to use the Samoans' cultural resources to reconstruct my own mental models. As the months turned into years, the flow of my everyday experiences was increasingly filtered through Samoan models rather than those I had brought with me. Things gradually took on new meanings that they had not had for me in my first months in the Islands.

I was experiencing two quite different dimensions of mind. There were the exotic orchestrations of thought, feeling, and sensory experience that had initially separated me from those around me. These were Samoan cultural models and they came in many forms. During formal gatherings, I would sit cross-legged, rigidly upright for hours on end, inside a large, open meetinghouse. I could feel the rough weave of mats under me, and the coarse curve of my designated house post made a lasting impression on my back. I would fan away flies, and periodically I would stretch out my legs politely to one side, seeking relief from the pain and numbness. My senses swarmed with smells of coconut-oiled bodies and the acrid smoke from the cooking huts. The cadences of Samoan oratory coursed in and out of practical matters, always returning to the poetic forms that encapsulated all formal talk.

Though few recognized such ineffable patterns of experience as part of Samoan

culture, these sensory gestalts were cultural models in their own right. They exercised a powerful influence over my own experience of being and place and to this day evoke memories of Samoa far more potent than those summoned up by many more obvious cultural models. None of these things were part of the usual anthropological account of culture. From this vantage point, there was no question of any simple psychic unity between cultures.

At the same time, I was discovering the importance of basic human processes of meaning construction and information processing. Without such shared cognitive processes, I could never have had access to a Samoan frame of mind. Just as I was gradually reconstructing my own mind-set "on the fly," so too were Samoans busy trying to make sense out of these new *pālagi* visitors who had fanned out all over their islands. We were all using our cultural and cognitive resources to construct meanings out of anomalous experiences, and it was here that we were all on common ground. Contrary to structuralist dogma, I discovered that meaning is not given to us ready-made, simply immanent either in cultural forms or in the mind. Meaning could be understood only as an ongoing process, an active construction by people, with the help of cultural resources. Viewed in this way, the study of cultural forms became for me not an end in itself but rather a necessary part of the study of the intentional process I call "meaning construction."

Anthropology's conventional wisdom understands our species' basic psychic unity as humanity's shared psychobiological endowment. According to this view, psychic diversity becomes the specific contents of the mind. This view is not exactly wrong. But the conventional Western metaphor, dividing the mind into container and contents, does not strike me as an adequate or illuminating account of culture's contribution to mind. Even at the level of cortical functioning, the metaphor will not (to exploit the image) hold water. The brain is not an inert lump of matter. Nor is it a passive recording device. And it is not a waiting shell into which specific contents are dumped. As Laughlin et al. have recently argued, "any view that construes learning as a process of pouring of information into a passive, 'floppy disk' brain, where it is then absorbed and stored in memory, is a totally outmoded and erroneous view" (1992:66). Far from a passive storage device, the living brain is a hierarchically organized, pattern-seeking, and pattern-generating organ ablaze with networks of electrochemical discharge. It is an adaptive and opportunistic information processor that transforms its data into meaningful patterns. To the extent that these patterned neural networks are altered through learning, it becomes difficult to clearly distinguish the container from the contents.

As for the mind, it is best understood as a relationship between the nervous system and a large set of models, both internal and external, on which it feeds (forward and back). This book takes the position that variations in cultural cognition can be traced to important local differences in the specific models and general schemas that constrain ordinary perception and understanding. In addition, I argue that there are cultural and historical differences in the distribution of analytic and nonanalytic modes of thought. These distributions are socially legitimated as an aspect of the sociology of knowledge in any community.

None of this evidence of psychic diversity throws into question the simplest meaning of "psychic unity"—that humans all share a common nervous system and that important cognitive entailments follow from this. Nor does it require us to resur-

rect outworn notions about cultural differences in cognitive capacity or totalizing "mentalities" (the vexing "primitive mentality" issue) that are held to distinguish different populations. What it does mean, however, is that the place of cultural models in mind can never be relegated to a kind of window-dressing over some primordial human hardware understood as the "real" meaning of mind.

Clifford Geertz was right when he insisted that we understand the mind as naturally located outside the head, in the midst of social life. But it is equally true that these culturally orchestrated landscapes are also to be found inscribed as dimensions of the mind. This is why cognitive science is unavoidably an ethnographic enterprise. It is also why the interpretation of cultures in particular has much to tell us about the character of the mind in general.

DEEP TROUBLE

This book's title is in part a plea to both cognitive scientists and anthropologists to keep culture in mind in the several senses of the phrase. It is telling that a cultural anthropologist should feel the need to defend, among his own colleagues, the significance of culture—a concept that has long been at the heart of anthropology. But the concept of culture, long the defining idea of our discipline, is in deep trouble. Over the last several decades, cultural anthropology has undergone several profound makeovers as it has made its way through some of the main intellectual and political currents of the late twentieth century.

Since the early 1980s, anthropologists have led the assault on their own scholarly traditions, attacking the ahistorical and apolitical representation of cultural forms that often characterized traditional ethnography. In part, the crisis has to do with the fact that our main unit of analysis has become harder to identify. So-called traditional cultures have transformed themselves before our eyes, so that historical analysis has supplanted synchronic cultural analysis as a privileged genre in our discipline. In the process, the presumed unity of culture has unraveled. Anthropologists have come to question the degree to which we can assume culture to be shared within a community in the face of competing interest groups and politically positioned individuals.

Our conception of culture as a master narrative has given way to a stress on competing voices or discourses. Attention has turned to the political processes whereby certain of these voices marginalize others as they achieve political and intellectual hegemony. Anthropology's postmodern identity crisis has been profoundly shaped by Michel Foucault's view of history as the flow of power mediated through competing "epistemes" understood as "discourses."

In its recent turbulent history, anthropology has simply mirrored the upheavals in the world at large. In the academy as in the world, forces of cultural and political homogenization from the center vie with the forces of differentiation coming from the periphery. Marginalized voices have forced their way to center stage not only in ethnography but in the world's political arena. Close to home, attention to issues of gender and ethnic diversity have profoundly changed how we understand our own world. At the same time as these concerns with "difference" have profoundly relativized our own knowledge frames, technological and economic trends have had the

opposite effect of homogenizing knowledge. Differences come and just as quickly they seem to evaporate as rapidly proliferating information technologies promise to put everyone on the same wavelength, making all knowledge potentially simultaneous and available to all.

In terms of global politics, the decolonization process of the last forty years has entered a new phase in the 1990s, with a wave of often violent independence movements by marginalized groups from within the borders of political states. The world's cartographers have struggled to keep up with the shape of changing or contested political borders as differences come and go. The legitimacy of the basic units of international politics has come into question. Yet at the same moment as political distinctions proliferate, the concentration of capital strengthens the hold of the "world system." Processes of ethnic differentiation are paralleled by equally potent processes of economic homogenization and cultural globalization.

The ironies proliferate. Coke and Pepsi quickly make their way back into recently liberated South Africa. Knowing how the world works, the forces of liberation from the margins make way for the return of capital investment at the center. Just as technology, transportation, and the power of world capital conspire to overwhelm the world's cultural diversity, creating a global mass culture with Western commodities at its heart, a growing worldwide "fundamentalism" proclaims not only the legitimacy of sacred over secular authority but also the authority of "ethnic" claims of local groups over the "political" claims of modern states. Cultural differences dissolve on one stage only to reappear with vengeance on another. Both political liberation and ethnic genocide are the joint fruits of the new fundamentalism, and they are not always easy to tell apart.

To the extent that the field of anthropology has responded to these changes in the world it studies (and which also produces it), these theoretical shifts are constructive adaptations of a discipline to new challenges. The intense self-examination of anthropology has also made visible social voices and processes that earlier ethnographic practice had muted or left out altogether.

Yet in the process of exploring its margins, anthropology has come close to losing its center. The culture concept that has long been a rallying and organizing principle of the field has been deconstructed virtually beyond recognition. It has become something of a dirty word among many younger anthropologists who have come to equate culture with "essentialism" and with traditional centers of authority. Ironically, at the very moment that many ethnic groups have turned to identity politics and highly essentialist notions of culture as ideological supports for their own autonomy and authenticity, many anthropologists have abandoned the culture concept altogether as too essentialist, preferring the more politically and historically charged concepts of discourse, interest, and strategy.

But one of anthropology's main contributions to the human sciences has always been to foreground the significance of cultural variation in human life. Without a robust concept of culture, anthropology loses its distinctive analytical power, and a significant aspect of human life remains undertheorized and unexamined. The poststructural critique of traditional conceptions of culture is potentially of great importance for anthropology, but only if it is used to refine the notion of culture rather than to discard it.

THE COGNITIVE REVOLUTION

It is significant that as anthropology has become more closely allied to history and certain trends in philosophy, it has also become increasingly marginalized from the other great intellectual movement of the late twentieth century—the revolution in cognitive science. In recent years major streams of research from cognitive psychology, computer science, philosophy, linguistics, and neuroscience have converged in what Howard Gardner has called *The Mind's New Science* (Gardner, 1985). Yet since ethnoscience lost its hold on mainstream anthropology a generation ago, anthropologists (with a few notable exceptions) have not kept up with or contributed significantly to the cognitive revolution. This is a great pity. Many of cognitive science's approaches to the mind have important implications for how we might rethink the culture concept in light of the poststructuralist critique.

Conversely, the idea of culture as a component of the mind adds a critical and often underdeveloped middle level of analysis in cognitive science. Attention to cultural cognition has the potential for mediating the general studies of brain function from neuroscience and the more particular studies of individual mental representations found in cognitive psychology. At this crucial juncture in intellectual history, cultural anthropology and cognitive science need one another, though neither seems aware of the fact.

Of course not all anthropologists have resisted the cognitive revolution. A small but growing number of psychological anthropologists have been working to refine a cognitively nuanced conception of culture in line with some of the major insights of cognitive science.[2] Much of this research focuses on what has come to be known as "cultural models."[3] In a sense, the concept of culture as a collection of "models" is as old as Ruth Benedict's idea of "cultural patterns." But contemporary work on cultural models has benefitted from recent work on schema theory in psychology and also from the recent critique within anthropology of overly reified and rigid notions of shared culture (Strauss, 1992). Sensitive to the dual status of cultural knowledge as at once contingent personal knowledge and public models, research on cultural models points the way to an important revision of the culture concept with the unique potential to bridge the cognitive revolution and postmodern critical theory.

This book argues for the importance of a theory of "cultural models" in linking anthropology and cognitive science. It proposes an *ethnographic conception of mind,* a notion of a brain dependent for its functioning on a range of extrinsically derived models. Such a view of human cognition does not entail a tabula rasa approach to the mind or any other form of cultural determinism. Humans employ a spectrum of different kinds of mental models. Thus there are very "primitive" innate mental schemas, such as those that appear to regulate an infant's earliest attachments with caretakers or the perception of facial gestalts. These may be understood as forms of *species knowledge,* "learned" and transmitted biologically through Darwinian selection (Bateson, 1972).

At the other end of the spectrum are idiosyncratic schemas constructed opportunistically and ecologically by individuals as a way of negotiating novel environments. These are part of an individual's *personal knowledge.* Between the species and the

individual lie prepackaged forms of knowledge that coordinate groups of individuals and are the property of communities. These socially mediated forms of knowledge are treated here as cultural models, aspects of *cultural knowledge. Culture in Mind* argues for the inclusion of these culturally derived models as an essential characteristic not only of human social life but also, as we shall see in Chapter 1, of human nervous system functioning (Changeux, 1986; Laughlin et al., 1992).

THE ORGANIZATION OF THE BOOK

The book is structured by the following set of questions:

1. *What is the history of anthropology's reluctance to pursue the culture and cognition question? How is this reluctance related to the troubling issue of the "psychic unity" of humankind?* Chapter 1 presents a historical overview of the psychic unity question within anthropology. The chapter traces the gradual disengagement of culture and mind in the thinking of leading figures in anthropology.

2. *What is a cultural model? How is cultural knowledge organized in time and space?* Chapter 2 is a discussion of the notion of cultural model and a detailed typology of the different kinds of cultural models that have been identified by anthropologists and psychologists.

3. *How is cultural knowledge organized cognitively? How are these structures related to other kinds of knowing in a "polyphonic" conception of mind?* This issue has been at the forefront of contemporary critiques of structuralism—critiques that have sought to replace "structure" with more fluid notions of discourse, practice, and strategy. These arguments have often proceeded by establishing false dichotomies in which structures have been consigned to a "straw man" role in relation to other kinds of knowing. Chapters 3 and 4 illustrate a complex polyphonic model of knowledge through an examination of the interplay of rule, strategy, and violation in modern sport.

4. *How is the culture concept related to the idea that there are there different modes of thought?* The book approaches these issues by returning to the classic issue of "primitive thought" and the long-standing "rationality debate" that this issue inspired among philosophers, anthropologists, and psychologists (Chapters 5 and 6). These problems are discussed in relation to the general problem of totemism (human/nonhuman symbolic identifications) and more specifically in relation to an analysis of Kwakiutl animal symbolism. A related issue is the modern counterpoint to the modes of thought issue: the relationship between industrial and electronic technologies and the postmodern cognition. The relationship between cognition and technical environments is taken up in Chapters 7 and 8, where I develop a conception of techno-totemism.

5. *How are public forms of knowledge transformed into personal forms of knowledge? How do cultural practices connect models in the world to those in the mind? What happens to this knowledge in the process?* These are issues about the role of social practices of knowledge transmission. I call the emergence of shared knowledge structures as aspects of personal experience *epistemogenesis*—the birth of

personal knowledge. In Chapters 9 and 10, epistemogenesis is be explored in a reanalysis of myth and ritual among the Murngin (Yolngu) of Arnhem Land in the Northern Territory of Australia.

6. *How do we understand the coexistence of multiple models for the same domain of experience?* Chapters 11 and 12 address the problem of multiple models in relation to Samoan ethnography. In some cases, multiple models define alternate perspectives on experience. In other cases, they set the stage for conflicted perception and profound ambivalence. These chapters raise the fundamental question of the limits of cultural models in accounting for human experience.

7. *How does analogy formation figure in the way that cultural models underwrite meaning construction for individuals?* Chapters 13 and 14 conclude the book by developing a theory of meaning construction intended to bridge the concepts of culture and mind. Chapter 13 deals with the problem of meaning in anthropology. It is a critique of several dominant approaches to meaning that have been influential in modern anthropology. The chapter outlines a concept of meaning construction as a kind of memory work employing analogy in the interest of incorporating novel experiences through older models.

The groundwork for this theory involves a rethinking of what linguists call "motivation" in symbols and a reevaluation of the Saussurian arbitrariness principle that has been so influential in anthropological accounts of cultural symbolism. George Lakoff's theory of "experiential realism" is proposed as an alternative to Saussurian semiotics as a way of understanding the double life of cultural symbols as features of both the world and the mind.

Chapter 14 moves cultural forms from the world to the mind by considering analogy formation and analogical transfer as they figure in connectionism, cognitive psychology, and in cultural anthropology. The process by which cultural models become transformed into mental representations is termed *analogical schematization.* A review of some of the important research on analogy formation reveals that analogical schematization is a complex process that operates at various levels of abstraction. A theory of analogical schematization is proposed as a fundamental cognitive bridge between cultural models understood as social artifacts on the one hand and as mental representations on the other.

Viewing culture as a knowledge system helps to clarify the relationship between culture's two lives: its social life as a feature of public institutions and its cognitive life as a component of the mind. To link these two lives of culture, the book necessarily tacks back and forth between particular ethnographic studies (psychic diversity) and studies of general cognitive processes (psychic unity). Rather than presenting the general theory first, followed by illustrative case studies, I have opted to take the anthropologist's route, exploring the mind "outside-in" and placing the ethnography up front.

A more top-down approach to the subject, with case studies following theory, might well have rhetorical advantages in the short run. Yet I think that theorizing through ethnography is a far more effective and appropriate long-term strategy for a book of this sort. The theoretical discussions at the end of the book ultimately make more sense with the case studies already in mind. So the exploration of mind is a kind of outside-in journey, moving from ethnographic cases to psychological constructs. In the interest of a unified argument, I have tried to suggest, in each of the

case studies, the important theoretical issues at stake. In the same way, I return where relevant to the case studies in making the more general theoretical points at the end of the volume. Readers are free to read the chapters in any order they wish. Though the book has been written as a single coherent argument, it also has something of a modular structure, enabling readers profitably to read Chapters 13 and 14 first or to read through any of the book's ethnographic sections as self-contained arguments.

This volume has been written in the conviction that now is the time for anthropology to claim its rightful place in the cognitive revolution. To do so requires that we rethink what we mean by both "culture" and "mind." Conceptualizing *culture in mind* suggests both an ethnographic theory of mind and a cognitive theory of culture. Mind needs to be "denatured"—moved outdoors into the midway of social life. This is the ethnographic mind. The concepts that show the most promise for revealing this double-dealing aspect of culture are the related notions of "model" and "schema."

The cognitive view of culture proposed in this book is not a one-way translation of culture to either mentalistic or biological terms. It is intended as a bridge, both theoretical and empirical, between the cultural and the psychological understandings of how models work. A cognitive approach to culture is not a reduction of culture to psychology or to biology. It is the recognition of the role of cultural models as an integral component of nervous system functioning and the fact that cultural models are inevitably constrained by nervous system parameters. It is equally the recognition that cultural models, while not the same as mental models, have a very significant connection with them. It is in the hope of contributing to this kind of reciprocal view of the relations between mental and social life, and of inspiring others to take seriously the questions of culture in mind, that this book has been written.

Notes

1. On comparative rates of brain development, see Passingham, 1982:112. On the relative influences of genetic constraints and postpartum experience on brain development, see Konner, 1982:60 ff. On the neuro-biological implications of the evolution of culture, see Donald, 1991.

2. Among the leading contemporary figures in cognitive anthropology are Maurice Bloch, Pascal Boyer, Roy D'Andrade, Janet Dixon Keller, Sarah Harkness, Dorothy Holland, Edwin Hutchins, Tanya Luhrmann, Catherine Lutz, Charles Nuckolls, Gananath Obeyesekere, Naomi Quinn, Richard Shweder, Mel Spiro, and Claudia Strauss.

3. For important general works on cultural models, see Casson, 1983; D'Andrade, 1987a, 1987b, 1990, 1995; D'Andrade and Strauss, 1992; Holland and Quinn, 1987; Quinn and Strauss, 1993; Shore, 1990b.