

## Preface

... I don't know what you mean when you say Big Mind and Little Mind. First of all there is the brain.

J. Krishnamurti (1895–1986)<sup>1</sup>

During rare, spontaneous moments, experiences of very special quality and great import emerge from the depths of the human brain. To each person, these awakenings seem awesomely new. What they convey is not. It is the simplest, oldest wisdom in the world. The message is that ultimate meaning is to be found in this present moment, infusing our everyday lives, here and now. But one can't predict such major peaks of enlightenment. Their insight-wisdom is next to impossible to describe. Even so, these fragile events inspired our major religions in ways that still shape our cultural development.

Aldous Huxley called mankind's basic trend toward spiritual growth the "perennial philosophy." Herein, I take a different perspective. To me, the trend implies a dynamic, intimate perennial *psychophysiology*. It is a series of processes, slowly evolving, that culminate in defining moments of an extraordinary character. What are such "peak" experiences? How could they both profoundly enhance, yet simplify, the workings of the brain? This book summarizes the latest evidence.

This is also a story of one neurologist's personal quest and professional search. These two paths converge in ways that lead to one straightforward thesis: awakening, enlightenment, occurs only because the human brain undergoes substantial changes. Does prior meditation help the brain to change in this direction? If so, how? This subject is explored throughout the book.

Is it taboo to discuss religion in a neurological context? It wasn't to William James, almost a century ago. We forget that back in 1901–02, he had already joined these two topics, using the title "Religion and Neurology" for the first of his twenty Edinburgh lectures.<sup>2</sup> Since then, knowledge has exploded within the neurosciences.

Neuroscientists have received most of the Nobel prizes in the fields of medicine and physiology during the past quarter-century. Even the United States Congress, in an inspired moment, voted to call the last ten years of this century "The Decade of the Brain."<sup>3</sup> I hope the reader feels at least equally inspired, and ready to take up the challenge of learning how your own brain functions.

I know this will not be easy, and I ask your forbearance. Our educational "system" has not yet really prepared us for such a task. And the blizzard of new research data, piling up each day, also makes it a formidable job for any writer to condense the information and to make sense of it. I take on two final sets of responsibilities. The first is to summarize the often-murky topic of Zen in order to make clear how vital are its interrelationships with the brain. The second is to express my personal views as one recent witness to Zen experience, while still preserving all those basic truths long held sacred no less to religion than to science. In so doing, it became clear that some chapters required the form of a personal narrative. Most other chapters could be expressed in the form of essays.

Don't be surprised when you encounter topics, some personal, others scientific, set next to each other in unconventional ways.

It may seem small comfort to hear this in advance, but the chapters' uneven textures also serve an illustrative function. Indeed, it has long been recognized that Zen itself displays a most uneven juxtaposition of forms.<sup>4</sup> These jostle our biases, keep us intellectually off balance, and postpone any premature, comfortable equipoise. Gradually our understanding ripens. Only slowly do our attitudes shift. Meanwhile, if we ever think we have Zen in our grasp, we are surely in error.

In part I, we consider what the elusive subject matter of Zen is, and what it is not. Part II examines meditation from the standpoint of its basic physiological mechanisms, not its epiphenomena. Respiration, yes. But perspiration, blood pressure, and superficial brain waves, no. These are *not* where this book is coming from. The next section, part III, summarizes the latest relevant developments in brain research. In part IV, we move on to define both the usual states of consciousness and their alternative expressions. This groundwork serves as the prelude to parts V through VII. Here we present specific examples of several alternate states of consciousness. Moreover, we then break new ground to consider how, where, and when they arise in the depths of the human brain. Finally, part VIII goes beyond transitory "experiences." Here, we clarify both the nature of the advanced *stage* of ongoing enlightenment and its social consequences. Chapters that contain testable hypotheses are listed on p. xvi.

All along, the approach is secular. No reader need fear being brainwashed. Zen enters not through words but through experience. Nor, I hope, will any expect an easy prescription for instant enlightenment. No pat answers are to be found here, no shortcuts. Shortcuts and one-dimensional approaches have already given us too many wishful, incoherent pictures of meditation, consciousness, and of enlightened states. But this situation has not relieved me from the responsibility of oversimplifying the subject. To this end, you are invited to use the glossary, figures, and tables, plus three question-and-answer summaries. Still, I invite the reader's caution: nothing about the brain, or Zen, is ever as simple as this book might suggest. What seems plausible today may be incorrect for reasons other than my errors of commission, omission, and interpretation. Important facts aren't yet known.