

Is There Any Common Ground between Zen and the Brain?

Ideologies, philosophies, religious doctrines, world-models, value systems, and the like will stand or fall depending on the kinds of answers that brain research eventually reveals. It all comes together in the brain.

Roger Sperry (1913–94)¹

The event is incredible: from grubby origins, a beautiful monarch butterfly emerges. Egg to caterpillar, yes. But how could a chrysalis transform itself into a fluttering butterfly? Unimaginable! It has to be seen twice to be believed.

There are plenty of reasons why we might also view with healthy skepticism the current crop of “born-again” humans. We have no clear idea *how* such an event might occur; why should we believe that it happens? Yet, long ago in a distant land, a man’s brain abruptly changed. He too underwent a metamorphosis. His transformation was so complete, enduring, and influential that he is still remembered as the Enlightened One.

Most of us in the West already think we know what “enlightenment” is. To us, the Enlightenment was that long period of intellectual ferment in the sciences and arts during the eighteenth century. It received its impetus from Newton and other giants of thought who proved that, through reasoning, we could discover those “natural laws” which govern our physical universe. To us, thereafter, the word “enlightenment”—*Aufklärung* in German—would mean that truth became clear only when it had first passed through logical sequences and rational discourse. How could enlightenment have a second, *nonrational* meaning? An insight-wisdom that preempts language and goes *beyond* reasoning? We have never quite accepted such a notion.

In fact, there never has been anything really convincing to be *said* about Zen. Only the same old soft evidence of the centuries. Only that it keeps conveying the same remarkable message: the human brain can be shaped, etched, and transformed by years of practice. To what end? To yield striking ongoing constellations of perception, insight, attitudes, and behavior. These flow spontaneously, blending conduct fully in harmony with whatever social setting prevails (see part VIII).

Even after he, too, was enlightened in this manner, the man they called the Buddha still viewed himself as a man. To himself, he remained only the most recent of many in the past who had become awakened. His now legendary accomplishment still serves as our prototype: Start by transforming only one person’s brain, and whole societies may then undergo authentic change on a major scale. Indeed, the Japan of today still demonstrates how the Buddhist message has been woven into the cultural fabric of a nation for countless generations.²

Yet, Eastern religious themes leave us feeling uneasy. (Even the term *Buddhism* seems alien. Where else do we meet *ddh* in our own language?) We take for granted the Western icon of the bleeding, crucified Christ. Yet, curiously, we still

find it strange that an Eastern approach could also accent the kinds of suffering in the world. Our image of God tends to conform to Michelangelo's theistic vision. He is that majestic, white-bearded patriarch, reaching down to create man in His own image with the mere touch of His right index finger. Always a white male, and always a capital *H*. True, it was our own culture that spawned the phrase, "God is dead." But atheism still feels uncomfortable. Something must be wrong with any foreign import that leaves out "God," the Creator.

Disquieted by anything mystical, we still might concede that mysticism was implicit in the lives of Jesus of Nazareth, St. John of the Cross, Plotinus, and others in our own culture. But who can know, without trying it, what it really means to meditate as the Buddha has been portrayed, sitting in his strange, cross-legged lotus posture? We are latecomers to meditation. In contrast, many centuries before Siddhartha Gautama, the East had already discovered a curious fact: a person who sat quietly in this manner, in full awareness, might finally awaken extraordinary states of consciousness. In Asia, this knowledge passed through the yogic traditions, then evolved through the newly developing Buddhist traditions in India, China, and Japan.

How could such quiet meditative sitting cultivate the arrival of insightful mental states? In this and subsequent chapters of this book, we shall begin to answer this question. And as we learn more about Zen's subtler mechanisms, we shall discover another curious fact: Its messages are not really so alien to the West after all. Indeed, as many of the opening quotations will illustrate, our own arts and literature have been saying the same things for centuries. Could it be that at their source, human brains everywhere gravitate toward the same kinds of natural messages?

Extraordinary states of consciousness are invested with special experiential qualities. Many lesser events, "quickenings," are also distinctive. We will single out experiences of both types, examine each for its form and content. Soon we will discover properties that are of fundamental neurological significance. In fact, the various examples selected are useful models, ready to teach us how our own brain functions. Why is this one book so ambitious as to review both Zen *and* neuroscience? *Because the two fields are so intimately interrelated that each illuminates the other.*

So Zen is more than an agency of personal change. In this book, the topic of Zen will evolve to become an avenue for creating potential scientific change as well. For, starting in part III, we will be deriving *testable* hypotheses. Each of the twenty-two chapters containing these theories is identified on page xvi. Whether today's hypotheses are later proved or disproved is less important than the fact that when they are tested later, unexpected new basic mechanisms may be discovered.

But to explore illumination is a demanding task. In this respect, Zen can serve us as did Newton's prism, helping to split light into its spectrum of components. However, as Westerners studying Zen, we must soon open up to alternative ways and axes of thinking. Neither topic—Zen, or the human brain—is understandable in one dimension, at one time, at one level. So a word of caution: Having now chosen to probe the complex interface between these two big subjects, we

will be setting off to travel paths of incomprehension. The trip will take us along strange new planes that tilt away at improbable angles. Mental illumination resists being split.

We cannot monitor the discharge rate of every single nerve cell while it is in the act of helping to sponsor our intricate mental functions. Do the climatologists try to describe a major storm front by tracking each of its raindrops and every local current of air?³ No, they do not predict the weather by plotting droplets. They study huge weather systems moving over large regions. So, too, do brain researchers reach out to use other descriptive techniques. This means that some of our levels of analysis will also employ units patterned on a much larger scale, systems which then depend on abstract psychological constructs. Let it be clear that each such step moves us farther away from Zen and from the simple direct experience of wet raindrops on the face.

It becomes necessary, then, to proceed in several ways. Pursuing a kind of bottom-up synthesis, we will draw on simpler examples to help understand higher functions. At other times, we will follow the top-down approach. This means observing complex brain functions, then working back toward those basic psychophysiological mechanisms from which they spring. No, we won't try to develop a complete neurochemistry of behavior. Behavior grows out of the interactions of the whole nervous system, whereas chemistry is best suited to the study of its smaller, simpler subparts, such as the single cell.⁴

The literature surveyed for the two major topics of this book is vast and very uneven. Half-blindfolded and with mittens on, researchers are working to assemble a giant, shifting, three-dimensional jigsaw puzzle. Many of the pieces out on the table don't yet fit. So we can hardly expect that the two general lines of evidence—Zen and the brain—will always join in an orthodox way that satisfies most religious tests for authenticity and most formal scientific tests for proof.

But others blazed this same trail, making the job easier. Among them was that pioneer explorer, William James. We shall meet James many times on our path. He warned us, decades ago, of our limitations. Were he living today, he would caution us to avoid what he might now call the "neurologists' fallacy." This is the naive notion that a brain perceives an apple the same way that a neurologist conceives of the whole process. He was already preparing us for the awesome, impossible simplicity of Zen insight: an apple is an apple—in *itself*—without our being in the picture.

Can the reductionist, who would rely solely on the fragile edge of intellect, even get near reason's antithesis in Zen? Not without venturing out on very thin ice. In fact, if we seem too openly to "neurologize" about internal events in part III it is only because we have already accepted the sobering Jamesian caveat: "In principle, intellectualism's edge is broken; it can only approximate to reality, and its logic is inapplicable to our inner life, which spurns its vetoes and mocks at its impossibilities."⁵

Anyone who would venture into that inner life, the interface between neuroscience and Zen, will also encounter the hostile crossfire of substantial misunderstandings from both sides. Two illustrations suffice, from major parties of international stature. Closing his last, fine work, Jacob Bronowski expressed sadness

at what he saw was a failure of nerve in the West. He believed that the West was in full retreat from knowledge whenever it took up such matters as extrasensory perception, mystery, and Zen. Sadly, he chose to lump them all together. He held that none of these could lead humankind to reaffirm its destiny. For, he concluded, it would be only through the ascent of self-knowledge that we could finally make “rational intelligence prove itself sounder than the reflex.”⁶ The reader will soon find that “self”-knowledge is what Zen is all about.

Christmas Humphreys came from the other direction. He regarded any approach to “the supremely spiritual school of Zen” that would involve “examining the brain in relation to Zen experience was rather like examining the car in the street to understand the mind of the driver indoors.”⁷ In fact, neurobiologists still go on openly studying reflexes and looking under the hood, not huddling passively in the trenches. Many of them still keep wondering: how does the inner life arise? Ever puzzled, they oscillate between two major fictions: (1) The brain can be understood; (2) We will never come close. Meanwhile, they keep pursuing brain mechanisms, partly from habit, partly out of faith. Their premise: The brain is the organ of the mind. Clearly, this three-pound lump of tissue is the source of our “insight information” about our very being. Somewhere in it there might be a few hidden guidelines for better ways to lead our lives.

Zen doesn't get preoccupied with such scientific flappings of the mind. Instead, what matters in Zen is the way our brain expresses—in simple awareness and in everyday behavior—those instinctual depths of self-knowledge that lie beyond the shallow fictions of the egocentric self.

To some, Zen is an exotic butterfly, now grown old and frayed along its wing edges. Fluttering beyond reach, it is a sublimely living thing. It was never intended to be examined close up with a lens, certainly not to be dissected. To others, their neural sciences should remain forever “hard” if not rigid. On principle, they reject the notion that there can be any reputable common ground between molecules, membranes, and mysticism. In their view, any attempt to localize mysticism in the brain is too close to last century's discredited phrenology. Still others may feel that Siddhartha's seemingly mild (but revolutionary) teachings have little bearing on today's harsh social realities.

These attitudes have lived in me in the past. I know them. Yet my hope is that the reader will discover, in the rest of part I and in part VIII, how increasingly relevant the Zen approach is to the serious social issues we confront today. For Zen has something practical to contribute to today's science, religion, philosophy, politics, and ecology. All these do come together, with Zen, in the brain.

Some readers will understandably be discomforted by the reports of animal experiments. Lay and scientific readers may be interested to know that Japanese Buddhists have set aside a memorial day, *Ireisai*. It is a requiem devoted to animals who gave their lives to benefit mankind. Both in the United States and elsewhere, substantial protections increasingly ensure that the kinds of research cited in these pages will have been conducted following humane principles.⁸

Authentic Zen has long sponsored the utmost freedom of personal inquiry. No person need fear the questions we must ask here, or the imponderables that