I The Nature of the Mind

¬o achieve a consensual body of knowledge concerning the nature and origins of the mind that is comparable to scientific knowledge about many aspects of the objective, physical world, mental processes must be approached with the same spirit of unbiased empiricism that has inspired the past four hundred years of scientific inquiry. This means that mental phenomena should be observed with all the diligence and precision that Galileo and Darwin applied to physical and biological phenomena. William James recognized this fact in the late nineteenth century, but psychologists abandoned introspection, ostensibly because it failed to yield rigorous, replicable results. James was well aware of the challenges facing the first-person, scientific exploration of the mind, but he concluded that these were common to all kinds of observation: "introspection is difficult and fallible; and . . . the difficulty is simply that of all observation of whatever kind. . . . The only safeguard is in the final consensus of our farther knowledge about the thing in question, later views correcting earlier ones, until at last the harmony of a consistent system is reached."77

Nineteenth-century scientific attempts to use introspection to investigate the mind were primitive, faltering, with only rudimentary means for refining attention skills in general. The leading US researcher in this field was Edward B. Titchener (1867–1927), who created the largest doctoral program in the field of experimental psychology in the United States at the time, after becoming a professor at Cornell University. Having devoted his life to the development of introspective techniques, he observed that the

main difficulties of introspection are "maintaining constant attention" and "avoiding bias," but a further difficulty is "to know what to look for." But as we have noted previously, with the rise of behavioral psychology toward the beginning of the twentieth century, the direct observation and exploration of the mind by means of introspection was abandoned with the rise of behavioral psychologists, who simply decided to view the mind as nothing more than physical dispositions for behavior. From this time onward, the scientific study of the mind has been dominated by the ideological and methodological constraints of materialism. As we have seen, this approach gained further momentum with the rise of neuroscience in the 1960s, at which point experts in this field simply decided that the mind should be viewed as a biological function of the brain.

As we noted in the opening discussion on the samatha practices of mind-fulness of breathing, taking the impure mind as the path, and awareness of awareness, such advanced training in mental balance and concentration provides just the skills needed to engage in rigorous investigations of the mind and its role in nature. When the achievement of samatha is conjoined with a range of practices of vipasyanā, such research has illuminated four aspects of the mind's nature, based on replicable, empirical discoveries made by thousands of contemplatives throughout Asia. These are the phenomenological nature of consciousness, the essential nature of the mind, the ultimate nature of the mind, and the transcendent nature of consciousness that lies within the very ground of the whole of reality.

The Phenomenological Nature of Consciousness

While modern scientists and philosophers have proposed a wide range of definitions of consciousness, they have achieved no consensus, nor have they devised any scientific means of measuring consciousness. They have left us in the dark regarding the nature and origins of consciousness and its relationship to the body and the natural world at large. In the tradition of Buddhism originating in India and evolving further in Tibet for more than a millennium, contemplatives and scholars long ago identified two defining characteristics of consciousness: *luminosity*⁷⁹ and *cognizance*.⁸⁰ A definition of any entity is useful insofar as it enables one to identify that entity when it is observed and to distinguish it from all other entities. The Buddhist definition of consciousness satisfies these criteria, whereas the many notoriously diverse materialist definitions do not. The characteristic of *luminosity* (the Tibetan

word for which may also be rendered as *clarity*) has a twofold meaning. The first is that consciousness is *clear* in the sense of being insubstantial, devoid of materiality. When observed directly, consciousness displays no physical qualities whatsoever—no mass, size, shape, velocity, or location—nor can it be measured or detected with any physical instrument. The second meaning is that consciousness *illuminates*, or *makes manifest*, all sensory and mental appearances. Were it not for consciousness, there would be no appearances of any kind. Consciousness enables us to experience visual shapes and colors, sounds, smells, tastes, and tactile sensations, as well as all mental processes, including thoughts, the arising of mental images, desires, emotions, dreams, and so on. The *cognizance* of consciousness refers to the experience of knowing and understanding the objects that appear to consciousness.

The obvious fact of the immateriality of consciousness has been fiercely resisted by materialists, who insist that the only things that exist are those that can be measured through physical means, namely, matter, energy, space, time, and their emergent properties. Over the past four hundred years, scientists have explored a vast array of physical entities, and without exception, their functions and emergent properties have also been found to have physical characteristics. But the materialists' assertion that the mind and consciousness are functions or emergent properties of the brain is an exceptional claim that is unsupported by compelling evidence. It is well known that mental and neural processes are correlated; however, as noted previously, the actual nature of those correlations remains as much as mystery as it was during Huxley's time. Indeed, he found ludicrous the very idea that states of consciousness could actually emerge from the activity of neurons: "How it is that any thing so remarkable as a state of consciousness comes about as a result of irritating nervous tissue, is just as unaccountable as the appearance of the Djin when Aladdin rubbed his lamp."81

Materialists would have us believe that there are only two options when considering the relation between the body and mind: either one adopts the mind-body dualism of Descartes, which is seen as having been discredited by contemporary science, or one accepts the view of materialistic monism, which is the metaphysical foundation for science promoted by Huxley. Both of these alternatives have proven sterile and unilluminating in terms of fathoming the nature and origins of the mind, so it is high time to escape the confines of this ideological straitjacket. Beyond the dichotomy of monism and dualism is the open expanse of a pluralistic universe, consisting of a

wide range of phenomena that fall outside the categories of either mind or matter. These include such nonphysical phenomena as meaningful information, appearances to consciousness, the mathematical laws of nature, and mathematical truths in general—along with justice, beauty, and human beings, who possess bodies and minds but are equivalent to neither.

Among the diverse phenomena that do not consist of states of matter *or* of mind, information is of particular interest, especially as modern civilization evolves beyond the industrial age to the information age. With the widespread use of personal computers and the Internet, we commonly refer to the amount of information stored in such systems; and since the brain is viewed as a biological computer, there is much talk of information being stored in brain circuits and processed by neurons and synapses. Many scientists and journalists go so far as to claim that individual neurons themselves "consciously" process and relay information to other parts of the brain, without being able to explain how the individual "consciousnesses" of a hundred billion neurons in the brain coalesce into the unitary stream of consciousness each of us experiences firsthand.

The philosopher John Searle challenges this naïve belief: "The information in the computer is in the eye of the beholder, it is not intrinsic to the computational system . . . The electrical state transitions of a computer are symbol manipulations only relative to the attachment of a symbolic interpretation by some designer, programmer or user."83 In other words, meaningful, semantic *information* is not objectively present inside a computer in the same way that silicon chips are present. The information we say is stored in a computer exists *only in relation to the conscious agents* who create, program, and use computers. George F. R. Ellis further clarifies that bits of information "exist as nonmaterial effective entities, created and maintained through social interaction and teaching . . . Thus while they may be represented and understood in individual brains, their existence is not contained in any individual brain and they certainly are not equivalent to brain states. Rather the latter serve as just one of many possible forms of embodiment of these features."84

Consciousness—as the simple experience of being aware—is not an attribute of individual neurons or silicon chips, and there is no compelling evidence that such consciousness is an emergent property of the brain conceived as some kind of biological computer. The word "consciousness" has been used so often now in a loose and undefined figurative sense, in an almost

playful effort to personify observed physical processes, that the scientific community sometimes seems to forget what it is we all experience as the fact of being conscious every day, which involves *being aware*. If we keep in mind such first-person experience, then it becomes readily evident that individual neurons just don't have the experience of being aware. Yet a belief in some imagined existence of a "consciousness" that could be an emergent property of matter has in many cases become an unquestioned assumption that precedes virtually all relevant scientific research while ignoring scientific evidence to the contrary.

The root of much modern confusion about the nature of information arises from the conflation of quantitative and qualitative information. Quantitative information, as defined by physicists, is the pattern of organization of matter and energy, which is inversely related to entropy. Qualitative, or semantic, information is meaningful in that it has a referent that is known by a conscious being.85 Quantitative information is objectively measurable, whereas semantic information exists only relative to a conscious agent who is informed. The chemicals and electricity inside computers and brains have no referents. In and of themselves, they aren't about anything, and they don't refer to anything, any more than the letters "S T O P" refer to anything apart from their being understood by conscious agents who have agreed among themselves what this sequence of letters means. This point was clearly recognized seventy years ago by the MIT mathematician and philosopher Norbert Wiener (1894–1964): "The mechanical brain does not secrete thought 'as the liver does bile,' as the earlier materialists claimed, nor does it put it out in the form of energy, as the muscle puts out its activity. Information is information, not matter or energy. No materialism which does not admit this can survive at the present day."86 Unfortunately, materialism has indeed survived to the present day, in part due to materialists' successful campaign to supplant this inconvenient truth with spurious conjectures.

Materialists tend to feel most at home in the mechanistic materialism that characterized physics during the closing decades of the nineteenth century. But cognitive scientists in particular have largely overlooked, misunderstood, or marginalized the revolutionary implications of quantum physics that emerged in the early twentieth century. As the physicists Časlav Brukner and Anton Zeilinger explain: "In classical physics a property of a system is a primary concept prior to and independent of observation and information is a secondary concept which measures our ignorance about properties of the

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system. In contrast in quantum physics the notion of the total information of the system emerges as a primary concept, independent of the particular complete set of complementary experimental procedures the observer might choose, and a property becomes a secondary concept, a specific representation of the information of the system that is created spontaneously in the measurement itself."

Rather than viewing quantum systems as local, anomalous conditions created and protected from outside influences in physics laboratories, the eminent theoretical physicist John Archibald Wheeler (1911-2008), in collaboration with Bryce DeWitt, applied the principles of quantum physics to the universe as a whole, resulting in the field known as "quantum cosmology." One startling finding was that for the universe at large, time itself disappeared from the equations: the universe is frozen. Only when they introduced an "observer-participant," with a perceptual reference point in space-time, did time and a changing universe manifest. The evolution of the universe can occur only when a subjective consciousness declares his or her "now," thereby establishing both past and future relative to that present moment. But past and future exist only relative to this observer-participant; they are not absolutely existent. 88 This interpretation casts a fresh light on the so-called measurement problem in quantum physics, which has remained unsolved since it was first identified almost a century ago. According to Wheeler, for a measurement to take place, a true observation of the physical world must impart meaningful information, signifying a transition from the realm of mindless stuff to the realm of conscious knowledge. Rather than thinking of the universe as matter in motion, he proposed that one could regard it as information being processed, and this requires the participation of conscious observers who are aware of such information.

A major reason why scientists so widely believe that consciousness must emerge from matter stems from the current scientific understanding of the evolution of the cosmos as a whole. According to modern cosmology, the universe began with the emergence of matter and energy following the Big Bang, roughly 13.7 billion years ago; our planet formed about 5 billion years ago, and organic life first emerged roughly 3.5 billion years ago. Over the course of biological evolution on Earth, there is no physical record indicating the first emergence of conscious organisms, for the simple reason that consciousness is physically undetectable. But it is assumed that the first conscious organisms evolved from more primitive, less complex, unconscious

organisms, so the emergence and development of higher and higher levels of consciousness in living organisms must be correlated with increasing degrees of complexity in their brains.

The logic of this argument appears to be irrefutable until one notes a simple fact that is almost universally overlooked by cosmologists and biologists: This entire narrative of the history of the universe and of life on Earth is based solely upon physical measurements. If you ask only physical questions and perform only physical measurements, the universe you conceive on this basis will contain only physical entities. If there were in fact nonphysical influences on the origin and evolution of the universe and living organisms, physicists and biologists would fail to discover them, as long as they limit themselves to the current methods of scientific inquiry. In short, the modern scientific view of the universe and humanity's place in it is materialistic for a simple reason: all observations that inform it are restricted to physical phenomena. The mind, consciousness, and all other nonphysical phenomena throughout the universe have been excluded from this reductionist worldview. Since the only world we know to exist is one in which the minds of conscious beings play the all-important role of illuminating and knowing the reality we inhabit, any projected universe that would consist solely of physical phenomena is a fantasy in the imaginations of those who have conceived it.

But if the universe that we experience exists only in relation to our experience of it, how could this be compatible with the known scientific facts concerning the evolution of the universe and life on Earth? John Wheeler offers a revolutionary solution to this conundrum. According to him, the universe consists of a "strange loop," in which physics gives rise to observers and observers give rise to at least part of physics. The conventional view of the relationship between observers and the objective world is that matter yields information, and information makes it possible for observers to be aware of matter by way of measurements. This can be depicted as a sequence: matter \rightarrow information \rightarrow observers. Wheeler, on the contrary, proposes that the presence of observers makes it possible for information to arise, for there is no information without someone who is informed. Matter is a category constructed out of information. Thus Wheeler inverts the sequence: observers \rightarrow information \rightarrow matter.⁸⁹

This implies that the current scientific narrative of the history of the universe is not absolutely real and objective, existing prior to and independent of all measurements. Wheeler explains, "It is wrong to think of that past as 'already existing' in all detail. The 'past' is theory. The past has no existence

except as it is recorded in the present. By deciding what questions our quantum registering equipment shall put in the present we have an undeniable choice in what we have the right to say about the past."90 This implies that at the macrocosmic level, the universe is fundamentally an information-processing system, from which the appearance of matter emerges at a higher level of reality. At the microcosmic level, each sentient being is a conscious, information-processing system. In both cases, it is *semantic* information, and not objective, quantitative information, that is crucial. Thus, in quantum physics, the "materiocentric" view of the universe has been supplanted by an "empiricocentric" view; and this reframing is at least as far-reaching in its consequences as the reframing from a geocentric to a heliocentric view of humanity's place in the cosmos.

Brukner and Zeilinger caution that this hypothesis "does not imply that reality is no more than a pure subjective human construct." On the basis of observations, scientists are able to conceive of objects with sets of properties that do not change across diverse modes of observation and description. They are "invariants" with respect to those observations. Predictions based on any such specific invariants may then be verified by any sufficiently trained observer, and as a result intersubjective agreement about the theories in question may be achieved; and this gives the impression that these invariant, mentally constructed objects exist at a level more fundamental than scientists' measurements and conceptual formulations.

Scientists or not, whenever we conceive of an entity, we think in terms of the entity as a "whole," which bears multiple parts and attributes. But which of these, if any, are objectively real and independent of our conceptual designation of them? William James suggests that "Wholes' are not realities there, parts only are realities." Wholes are "not realized by any organ or any star, or experienced apart from the consciousness of an onlooker." But as soon as we identify a part of any whole, that part itself is identified as having its own parts or attributes, in which case it, too, becomes a whole. Even the very notions of "part" and "whole" have no meaning independent of each other. To speak of a part that is unrelated to a whole is as meaningless as speaking of a whole with no parts. Yet if one exists only relative to the other, they must both exist only relative to the mind that conceives of them. James undermines his own assertion of the independent reality of parts when he cites the Scottish philosopher Edward Caird (1835–1908), who comments, "Isolate a thing from all its relations, and try to assert it by itself; you find that

it has negated itself as well as its relations. The thing in itself is nothing."93

This principle of interdependence also applies to the relationships within the triad of semantic information, the informed consciousness, and the referent of the information; and this is key to understanding the implications of quantum cosmology. Remove any one of these three elements and the other two vanish simultaneously. That is, in the absence of semantic information, there can be nothing about which one is informed and no one who is informed about it. Likewise, if there is no conscious agent who is informed, there can be no flow of information and hence no reference to anything about which one might be informed. Finally, if there is no referent of the information, the categories "information" and "the consciousness that is informed" are devoid of meaning. This implies that consciousness lies at the very foundation of the known universe, and it is mutually interdependent with the information it perceives and the phenomena of which it is informed. Each of these three elements is devoid of existence in and of itself, for all three arise in mutual interdependence.

Much insight is to be gained from the analogy of the macrocosm of the universe to the microcosm of a human being. On this theme the Buddha declared, "It is in this fathom-long body with its perceptions and its mind that I describe the world, the origin of the world, the cessation of the world, and the way leading to the cessation of the world."94 Rather than reducing human existence to an amalgam of matter and energy, it may be far more illuminating to regard ourselves primarily as conscious information-processing beings, who have conceived of the derivative constructs of matter and energy. We are not configurations of stardust, but rather the conscious creators of our known physical world, which we commonly conceive in the mentally constructed categories of matter, energy, and their emergent properties.

Waking up from the fantasy that only physically measurable phenomena exist, we may swiftly note that all the immediate contents of our sensory and mental experience are nonphysical. Appearances to our physical senses, such as colors and sounds, do not exist in the objective world, independently of our physical senses, nor do they exist inside our heads. All the information that we process about the world is devoid of any physical attributes, as noted previously. The physical world as it is imagined to exist independently of all nonphysical appearances and information can never be observed by anyone. This is not to say that the physical world doesn't exist, only that the physical world—as we observe it and make sense of it—doesn't exist independently of our observations and concepts.

This cutting-edge view of the interrelated nature of mind and matter, and more specifically the mind and body, finds a basis in even the earliest of Buddhist writings. For example, the Sri Lankan Buddhist monk and scholar Weragoda Sarada Maha Thero explains that the Pāli terms nāma and rūpa, sometimes translated as "mind" and "body," are in fact not two separate, inherently real entities that somehow interact with each other. Rather, they are two ways of looking at a unified experience. He suggests that nāma (lit. "naming") is experience seen subjectively as "the mental process of identifying an object." Rūpa ("appearing form") is experience seen objectively as "an entity that is perceived and conceived through the mental process of identification." Manō, often translated as "mind" or "mentation," refers to "the mental process of conceptualization, which integrates and makes meaning out of the different percepts brought in through the different senses." This meaningful total experience is viewed subjectively as the "identification of an entity" (nāma) and objectively as "the entity identified" (rūpa).95

The "mind-body problem" that has plagued Eurocentric civilization for centuries was created and has been perpetuated by a way of thinking that assumes that the mind and body exist as separate, inherently real entities that inexplicably interact with each other. Cartesian dualists have never been able to present a compelling explanation for how such interaction occurs, and materialist monists have pretended to solve the problem either by equating the mind with physical processes—without justification—or by dismissing the existence of the mind altogether. By challenging the metaphysical assumption that underlies this problem, Buddhists can show that the problem begins to unravel by itself.

The Essential Nature of the Mind

To understand what is meant in a Buddhist context by the "essential nature" of the mind, we may contrast this with its "manifest nature." The practice of taking the impure mind as the path, also called settling the mind in its natural state, which was introduced earlier, is a sophisticated method for examining the manifest nature of thoughts, memories, desires, emotions, and all manner of mental appearances. From the vantage point of the stillness of awareness, one may observe with an increasingly rigorous "internal objectivity" the circumstances by which mental events arise, how they are present once they have arisen, and how they vanish. In the classic Buddhist practice of closely applying mindfulness to the mind, 98 one also examines whether mental phe-

nomena are stable or in constant flux, are veritable sources of well-being or fundamentally unsatisfying, and whether they are by their own nature "I" and "mine" or simply events arising in dependence upon prior causes and conditions. Moreover, a central theme in such investigations is to determine which mental factors play crucial roles in afflicting the mind and triggering harmful behavior and which give rise to a genuine sense of well-being for oneself and others. Specifically, one examines the ways in which craving, hostility, and delusion disrupt the equilibrium of the mind and generate unease, anxiety, and unhappiness.

The manifest nature of mind that is scrutinized in such practice does arise in dependence upon brain activity and physical stimuli from the body and environment, as well as on the basis of prior states of consciousness and mental processes. So this mind is strongly configured, or conditioned, by many environmental, physiological, and psychological factors that are uniquely human. In the practice of *settling the mind in its natural state*, one allows this flow of consciousness that is shaped by all such factors to "melt" into a progressively primal flow that is called the "essential nature of the mind." The relation between the manifest and essential nature of the mind may be likened to that between a specialized cell, such as a neuron, and a stem cell. Just as a stem cell is configured by biological factors to become any one of a wide variety of specialized cells, so this primal flow of consciousness, known as the *substrate consciousness*, is configured by mental and physical factors to become a wide range of human and nonhuman minds.

To review the method of settling the mind in its natural state: While resting in the stillness of awareness, withdraw the attention from all five domains of sensory experience, and focus single-pointedly on the domain of mental events, observing whatever thoughts arise, without following after those pertaining to the past, and without being drawn into thoughts about the future. Do not try to modify, block, or perpetuate any mental events that arise, but simply observe their nature, without letting your attention be drawn away to any referents of thoughts or images. Sustain the flow of mindfulness without being distracted by any objective appearances to your five physical senses, and without identifying with any subjective mental impulses or processes. Sustain the stillness of your awareness in the midst of the movements of the mind. As the Buddha Samantabhadra explains in the *Vajra Essence*, "Fluctuating thoughts do not cease; however, mindful awareness exposes them, so you don't get lost in them as usual. By applying yourself to this practice

continuously at all times, both during and between meditation sessions, eventually all coarse and subtle thoughts will be calmed in the empty expanse of the essential nature of your mind. You will become still, in an unfluctuating state in which you experience bliss like the warmth of a fire, luminosity like the dawn, and nonconceptuality like an ocean unmoved by waves."99

The culmination of this process of settling the mind in its natural, or unconfigured, state occurs, as Samantabhadra comments, when:

finally the ordinary mind of an ordinary being disappears, as it were. Consequently, compulsive thinking subsides and roving thoughts vanish into the space of awareness. You then slip into the vacuity of the substrate, in which self, others, and objects disappear. By clinging to the experiences of vacuity and luminosity while looking inward, the appearances of self, others, and objects vanish. This is the *substrate consciousness* . . . in truth you have come to the essential nature [of the mind]. 100

All sensory and mental appearances are illuminated, or made manifest, by this substrate consciousness, but it does not enter into, or cognitively fuse with, these appearances. They do not arise anywhere in physical space, but rather emerge from, are located in, and eventually dissolve back into the immaterial space of the substrate. The substrate is clearly ascertained when the mind has completely settled into its natural state, but you also enter into this state in deep, dreamless sleep, when you faint, and in the culminating phase of the dying process.

As noted above, the three salient characteristics of the substrate consciousness are bliss, luminosity, and nonconceptuality. When experienced from within the context of the ordinary mind, the three primary mental afflictions of craving, hostility, and delusion are seen to be highly toxic, disruptive influences on the mind. But when these same mental processes are viewed from the perspective of the substrate consciousness, one recognizes that their essential natures correspond respectively to bliss, luminosity, and nonconceptuality, from which each of those afflictions arises. As these primal qualities of the essential nature of the mind become conditioned and manifest in the ordinary human mind, they become afflictive, but their *essential* nature is not toxic in any way.

This raises the more general question of the causal origination of all states of consciousness and mental processes. In the mid-nineteenth century, the

German physicist Hermann von Helmholtz mathematically formalized the principle of the conservation of energy, which implies that in the world of nature, nothing ever arises from nothing, nor does something that exists ever transform into nothing, disappearing without a trace. All configurations of matter-energy emerge from prior configurations of matter-energy, and the same is true of configurations of space-time. This principle of conservation, which is a central pillar of modern physics, pertains to all the fundamental constituents of nature, so it is reasonable to ask: Does it also hold for the emergence and disappearance of consciousness?

We may consider three basic alternatives. First, if consciousness is non-physical, as indicated by all evidence, then the hypothesis that it emerges from a configuration of matter-energy would violate the physical principle of conservation of matter-energy, for this would entail something physical transforming into something not physical.

Second, if consciousness emerges from nothing, this would make it unlike anything else in the known world, while also defying common sense: How could nothing ever be influenced so that it transforms into something?

Third, if consciousness emerges from something nonphysical and it follows the same principle of conservation as matter-energy and space-time, then it must emerge from a prior configuration of consciousness, which is in fact the Buddhist view.

Of course, a fourth option is that consciousness is indeed physical, as so many materialists believe, at least those who don't deny its existence altogether. Evidence against this hypothesis is that it displays no physical characteristics when experienced directly, and it can't be measured with any physical instrument. States of consciousness in humans have been found to be correlated with brain states, and there is as much evidence that the brain influences the mind as there is that the mind influences the brain. But the mere fact that mental processes correspond to physical processes in the brain in no way logically implies that they are identical or that the mind is physical.

In the Buddhist analysis of causality, a clear distinction is drawn between a substantial cause ¹⁰¹ and a cooperative condition. ¹⁰² A substantial cause transforms into its effect and loses its own identity in the process, while a cooperative condition influences its effect without losing its identity in doing so. For example, a kernel of corn is a substantial cause of a stalk of corn, for the substance of the kernel transforms into the substance of the stalk, and in so doing, its identity as a kernel is lost as it becomes the stuff of the stalk. A

farmer's decision to plant a field of corn, the tractor he uses to plow the field, and the workers who sow the crop all serve as cooperative conditions for the emergence of stalks of corn, but they do not transform into the crop. These two types of causality are prevalent in the field of physics as well. According to classical physics, when one billiard ball strikes another, it acts as a cooperative condition for the second ball to move, but it doesn't turn into that ball; and particles of matter influence fields and vice versa as cooperative conditions, but do not turn into them. According to Einstein's theory of relativity, space-time and mass-energy mutually influence each other as cooperative conditions without space-time turning into configurations of mass-energy or vice versa. Finally, in quantum physics, according to the Copenhagen Theory, the act of measurement causes a probability field to collapse, but it does not transform into that probability field or into the elementary particles or waves that arise relative to the measurement system.

Likewise, based on the above Buddhist analysis of the causation of human consciousness and the empirical discoveries of contemplatives who have recognized the substrate consciousness and its relation to the manifest nature of the human mind, the substantial cause of human consciousness has been identified as the substrate consciousness that transforms into it, and its cooperative conditions include many physical influences such as the formation of the human body and various environmental factors. In short, the physical body *conditions* human consciousness, as well as the whole range of human mental and sensory processes, but no state of consciousness or mental process ever directly *emerges* from the body or any other physical phenomenon.

At the same time, as we will see in the chapters to come, it can properly be said that states of consciousness strongly condition the way that a body will arise and appear for the person who consciously calls that body "mine." The relationship between subtle states of mind and the subtle physical energies with which they are correlated throughout one's lifetime is often explained with the analogy of a rider and his horse. Without the horse, the rider (a configured mind) has no ability to travel through space, no ability to engage with its objects of awareness in particular locations. But without the rider, the horse (the subtle energies, but one might also say the body in general) is blind, for physical matter in itself is not *aware*. The body is said to be the "support" for a human life, while the mind is said to be that which is "supported." Yet as in the analogy of a rider supported by a horse—or a house supported by the earth—this in no way suggests that the rider *emerged* from

the horse, or that the house was produced by its foundation, as though the latter were the substantial cause of the former. Rather, just as a rider can get onto one horse, dismount, and get onto another one, but as long as he is riding, he is indeed "supported" by that horse, Buddhist contemplatives have understood that both the coarse and subtle levels of consciousness ride upon the physical support of a body for as long as a particular sentient being is alive. At death, however, this intimate interrelationship is severed, so that the mind no longer rides that particular configuration of subtle energies and coarse matter with which it had once identified. The subtle continuum of mental consciousness continues, and due to the driving force of karmic propensities, this substrate consciousness will eventually find a new "horse"—or more precisely, start influencing the formation of a new body. This in turn will take place only when the suitable cooperative conditions (parents, viable cells, etc.) have been assembled for consciousness to take birth on the basis of—but not produced by—a new physical support. Thus, the substantial cause for the consciousness of the new lifetime remains the substrate consciousness, even as its later continuation is now supported, or conditioned, by a new configuration of physical matter.

The substrate consciousness is known by various names within the Buddhist and other contemplative traditions. In the *Commentary on Bodhicitta*, attributed to the famed Nāgārjuna, it is stated:

When iron approaches a magnet, it quickly spins into place. Although it has no mind, it appears as though it did. In the same way, the substrate consciousness has no true existence, yet when it comes [from a previous life] and goes [to the next] it moves just as though it were real.

And so it takes hold of another lifetime in existence. 105

In Mahāyāna Buddhism, especially as interpreted by the Tibetan master Jé Tsongkhapa (1357–1419), this foundational level of consciousness has also been called the "subtle mind" and the "subtle continuum of mental consciousness." In Theravāda Buddhism the same phenomenon is known as the *bhavanga*, or "ground of becoming," and the early Mahāsānghika school of Buddhism referred to this as a root- (Skt. *mūla*) consciousness that acts as a support (Skt. *āśraya*) for visual consciousness, etc., just as the root of a tree sustains the leaves, etc. The meditative level at which one has completely settled

the mind in its natural state corresponds to the achievement of the proximate meditation, or threshold (Skt. *sāmantaka*) of the first dhyāna. Theravāda Buddhist contemplatives report that when one gains access to the first dhyāna, one experiences a naturally pure, unencumbered, luminous state of consciousness, which manifests when awareness is withdrawn from the physical senses and when the activities of the mind, such as discursive thoughts and images, have subsided. This happens naturally when one falls into dreamless sleep and in the last moment of one's life. ¹⁰⁶ This dimension of consciousness is experienced as an undefiled state of the radiant mind that precedes mental activities (Pāli *javana*) and from which such movements of the mind arise. This is the essential nature of the mind that the Buddha referred to in his declaration:

I know of no other single process which, thus developed and made much of, is pliable and workable as is this mind. Monks, the mind which is thus developed and made much of is pliable and workable. Monks, I know of no other single process so quick to change as is this mind Monks, this mind is luminous, but it is defiled by adventitious defilements. Monks, this mind is luminous, but it is free from adventitious defilements. 107

The defilements are called "adventitious" because they are not intrinsic to the mind itself, but come and go. With their removal, the mind's intrinsic luminosity emerges—or, more precisely, becomes manifest. To unlock the power of this natural purity, the mind must be fully "awakened" by meditative training in samādhi, so that its radiant potential is fully activated. The Buddha further indicated that loving-kindness is an innate quality of the luminous mind, and it acts as a primal drive to develop and refine one's mind. ¹⁰⁸ In a similar vein, the Buddha seems to be referring to this luminous ¹⁰⁹ nature when he comments on the "sign of the mind," ¹¹⁰ which is ascertained only when the five obscurations have been dispelled with the achievement of śamatha. This, he says, is an indispensable prerequisite for effectively engaging in the foundational vipaśyanā practices of the four applications of mindfulness. ¹¹¹

The Ultimate Nature of the Mind

Once the essential nature of the mind has been experientially identified, one is poised to explore the ultimate nature of the mind. Phenomenologically,

contemplatives well trained in settling the mind in its natural state, by closely applying mindfulness to the mind, are able to observe how objective mental appearances emerge from and dissolve back into the substrate; and they can note how subjective mental processes emerge from and dissolve back into the flow of the substrate consciousness. But to identify the ultimate nature of mental events, we return to the question of the relation between the whole and parts, specifically, between mental events and their attributes.

Introspectively, contemplatives identify consciousness by way of its defining characteristics, namely, its luminosity and cognizance. But what is the nature of the "whole," consciousness, relative to its attributes, "luminosity" and "cognizance"? The same analysis can be applied to all mental processes, including desires, thoughts, emotions, and perceptions. Each mental process has its own qualities by which it is identified. Like all other phenomena, the mind is not identical to its attributes, but neither does it exist independently from them. Immediately after determining the primacy of the mind within the triad of the body, speech, and mind, in its discussion of establishing the mind as baseless and rootless, the Vajra Essence proceeds to analyze the mode of existence of the mind. First asking whether the mind has form, and upon determining that it does not, questions are then raised about the source and location of the mind. Does it arise from the physical elements or from space? Can its size be determined, and are the space of the mind and external space outside the body the same or different? The conclusion drawn is that the mind is of the very nature of space—its luminosity is indivisible from space itself—with no duality between external and internal space.

In the Mahāmudrā (the "Great Seal") and Dzokchen ("Great Perfection") traditions of Buddhism in particular, the ultimate mode of existence of the mind is analyzed in terms of the origin, location, and dissolution of the mind. Karma Chagmé (1613–78), a renowned master of both Mahāmudrā and Dzokchen, highlights the unique efficacy of first exploring the ultimate, or actual, nature of the mind as a means for subsequently fathoming the ultimate nature of all other phenomena. The training in probing into the origin, location, and dissolution of the mind, he asserts, "cuts through conceptual elaboration from within, so it is easy to learn, easy to understand, easy to know, and easy to realize. Cutting through conceptual elaboration from the outside is like wanting dried pine wood, and drying it by cutting off the pine needles and branches one by one. So that is difficult. In contrast, cutting

through conceptual elaboration from within is easy, for it is like cutting the root of the pine tree so that the branches dry up naturally."¹¹²

The Tibetan Dzokchen master Lerab Lingpa (1856–1926), also known as Tertön Sogyal, summarizes how the mind's nature is ascertained as a result of such investigation: "Therefore, however much mere appearances that are empty of causes, consequences, and an essential nature may arise in the aspects of the birth, cessation, and abiding of a deceptive mind—or else in the aspects of its origin, location, and destination—from the very moment they arise, ultimately such movements and transformations have never existed. Recognition of that is known as *realization of the actual nature of the mind*." His close disciple, Jé Tsultrim Zangpo (1884–1957), elaborates on this point:

First of all, the creator of the whole of samsāra and nirvāṇa is this very mind of yours. This point is made in numerous sūtras and commentaries. So if you ascertain this mind of yours as being empty of true existence, simply by extending that reasoning you will ascertain all phenomena to be empty of true existence. Thus the guru will enable the disciple to discover how all phenomena depend on the mind, and consequently, how the mind takes a primary role within the context of the body, speech, and mind. Moreover, a person with sharp faculties who can determine that this mind, which plays such a dominant role, cannot be established as truly existing from its own side, as something really, substantially existent, is someone who can determine the absence of true existence even with subtle reasoning, simply by having been shown partial reasons for establishing that absence. For such a person, just by force of a revelation as to whether or not the mind has any color or shape, and just by force of being taught the reasons why the mind is devoid of any [true] origin, location, or destination, that person will proceed to establish the fact that the mind lacks true existence, by way of subtle reasoning that refutes a subtle object of negation. Thus, by the extraordinary power of relying on such reasoning, people with superior faculties are able to realize the emptiness of all phenomena. 114

This concise mode of analysis regarding the origin, location, and destination of the mind is emphasized in the Mahāmudrā and Dzokchen tra-

ditions of contemplative inquiry as the most effective first step in realizing the emptiness of inherent nature of all phenomena. While Buddhism as a whole presents a wide variety of methods for refining one's attention skills by means of training in śamatha, the strong emphasis in Mahāmudrā and Dzokchen is the practice of settling the mind in its natural state, which is also known as samatha focused on the mind. In contrast to the common approach of first studying Madhyamaka treatises on emptiness, based on the Perfection of Wisdom sūtras, and then turning to meditation, the great adepts of Mahāmudrā and Dzokchen encourage us first to achieve śamatha by focusing on the mind, and then to be introduced to the Madhyamaka view of emptiness and the Mahāmudrā and Dzokchen views regarding the transcendent nature of consciousness, known as the indwelling mind of clear light, primordial consciousness, or pristine awareness. When the many veils that obscure the essential nature of the mind have been gradually removed through the process of settling the mind in its natural state, the nature of conditioned consciousness is seen nakedly. While sustaining this immediate awareness of the essential nature of the mind, with relative ease one can recognize that it is devoid of its own intrinsic identity, one that could exist independently of the conceptual framework within which it is identified and demarcated from all other phenomena. As another close disciple of Lerab Lingpa named Lozang Do-ngak Chökyi Gyatso Chok (1903–57), also known as Dharmasāra, explains:

When engaging in this kind of Mahāmudrā meditation, śamatha is achieved by focusing on the mind, such that one seeks the view on the basis of meditation. In dependence upon this śamatha, the mind is settled with the aspect of things as they are, once one has correctly determined the birth, cessation, and abiding of the mind as being without identity.¹¹⁵

All Buddhists refute the inherent existence of the "I," or personal identity, for the self is nowhere to be found among the five psycho-physical aggregates either individually or collectively, and it is not to be found apart from those aggregates. Of course, this does not mean that the self does not exist at all, as is sometimes erroneously claimed. For example, the Buddha declared, "It is by one's self that one purifies oneself," "there is such a thing as self-intiative," and "you must be a refuge unto yourself." Theravāda Buddhists

thus assert "personal identitylessness," but they generally leave unchallenged the assumption that the aggregates and all other phenomena exist truly, or independently, of any conceptual or verbal designation. From a Mahāyāna perspective, those following the Theravāda tradition are thus said to reject "phenomenal identitylessness."

However, there are sources in the Pāli canon that question the real existence of phenomena other than the self, suggesting that they, too, have a mere nominal existence. The Buddhist nun Vajirā, for example, declares that just as no "being" can be found among the aggregates, so can no chariot be found among its constituent parts. Both the self and a chariot (and by implication all other phenomena) exist only by convention. Likewise, the arhat Nāgasena makes this same point, drawing on the analogy of a chariot and its parts, in his famous dialogue with King Menander. Some might argue that the paucity of such references in the Pāli canon regarding the merely conventional nature of all phenomena means that one should not read too much into those passages. But the fact that these narratives are included in the canon suggests that they should not be overlooked, and they do provide a direct link to the teachings of the perfection of wisdom, which emphasize the empty nature of all phenomena, including the mind.

The Transcendent Nature of Consciousness

The realization of the emptiness of inherent nature of the mind is common to followers of Sūtrayāna and Vajrayāna Buddhism. By engaging in Sūtrayāna methods of vipaśyanā, on the basis of achieving śamatha, one realizes the empty nature of the mind with respect to the subtle continuum of mental consciousness. But using the extraordinary skillful means of Vajrayāna, particularly those of Mahāmudrā and Dzokchen, one cuts through the conditioned nature of the substrate consciousness and realizes emptiness from the perspective of the transcendent nature of consciousness. The *Vajra Essence* explains:

Previously, your intellect and mentation demarcated outer from inner and grasped at them as being distinct. Now, ascertaining that there is no outer or inner, you come upon the nature of great, all-pervasive openness, which is called *meditation free of the intellect and devoid of activity*. In such a meditative state, motionlessly rest your body without modifying it, like a corpse in a char-

nel ground. Let your voice rest unmodified, dispensing with all speech and recitations, as if your voice were a lute with its strings cut. Let your mind rest without modification, naturally releasing it in the state of primordial being, without altering it in any way. With these three, dispensing with activities of the body, speech, and mind, you settle in meditative equipoise that is devoid of activity. For that reason, this is called *meditative equipoise*. ¹²⁰

In Buddhahood Without Meditation, Düdjom Lingpa clarifies this point:

Although there is no outer or inner with respect to the ground of being and the mind, self-grasping simply superimposes boundaries between outer and inner, and it's no more than that. Just as water in its naturally fluid state freezes solid due to currents of cold wind, likewise the naturally fluid ground of being is thoroughly established as saṃsāra by nothing more than cords of self-grasping.

Recognizing how that is so, relinquish good, bad, and neutral bodily activities, and remain like a corpse in a charnel ground, doing nothing. Likewise, relinquish the three kinds of verbal activity and remain like a mute; and also relinquish the three kinds of mental activity and rest without modification, like the autumn sky free of the three contaminating conditions. This is called *meditative equipoise*. It is also called *transcendence of the intellect*, for by relinquishing the nine kinds of activity, activities are released without doing anything, and nothing is modified by the intellect. In the context of this vital point, you will acquire great confidence within yourself.¹²¹

In the modern popularization of Dzokchen meditation, many people are introduced to practices called "open presence," and some teachers misleadingly equate this with other meditative practices variously characterized as "mindfulness," "bare attention," "choiceless awareness," and "open monitoring." But authentic pith instructions make it perfectly clear that there can be no Dzokchen meditation divorced from Dzokchen view and conduct. This triad of view, meditation, and conduct are inextricably interrelated, so it is impossible to extract any one of these elements of practice from the other

two. The practice of cutting through to original pristine awareness, often referred to as "open presence," entails first cutting through the substrate consciousness to pristine awareness and then sustaining this view of the Great Perfection from that perspective. This is possible only if one has realized the emptiness of inherent nature of consciousness, and that realization can be robustly sustained only if one has achieved samatha.

In her commentary to Düdjom Lingpa's *Buddhahood Without Meditation*, the renowned female Dzokchen adept and treasure-revealer Sera Khandro Dewé Dorjé (1892–1940), spiritual partner of the eldest son of Düdjom Lingpa, ¹²² clearly illuminates the view, the meditation, the pristine awareness, and the appearances and mindsets of open presence:

(1) Regarding the view of open presence, the great uniform pervasiveness of the view transcends intellectual grasping at signs, does not succumb to bias or extremes, and realizes unconditioned reality, which is like space. (2) Regarding the meditation of open presence, just as the water of the great ocean is the same above and below, whatever arises is none other than the nature of ultimate reality. Just as water is permeated by lucid clarity, in ultimate reality there is no samsāra or nirvāņa, no joy or sorrow, and so forth, for you realize that everything dissolves into uniform pervasiveness as displays of clear light. (3) Regarding open presence in pristine awareness, just as the supreme mountain in the center of this world system is unmovable, pristine awareness transcends time, without wavering even for an instant from the nature of its own great luminosity. (4) Regarding open presence in appearances and mindsets, all appearing phenomena are naturally empty and self-illuminating. They are not apprehended by the intellect, not grasped by the mind, and not modified by awareness. Rather, they dissolve into great uniform pervasiveness, so they are liberated with no basis for acceptance or rejection, no distinction between luminosity and emptiness, and no room for doubt as to what they are."123

While resting in the substrate consciousness, in which thoughts and other activities of the ordinary mind have vanished, one examines the very nature of the mind in which thoughts have ceased, recognizing that it doesn't truly emerge from anywhere, is not truly located anywhere, and it doesn't truly depart to anywhere. It is inherently empty of any real origin, location, and destination. One then examines the nature of the awareness that has come to this realization, recognizing that there is no difference between the awareness of which one is aware and the awareness with which one is aware. The dichotomy of subject and object melts away. One then rests in open presence, with no striving, no effort, no modification, and no activity of any kind. All the activities of the conditioned mind of a sentient being are suspended, and one cuts through the substrate to realize the emptiness of the open expanse of the space-like nature of awareness. This is the view of the Great Perfection, in which one experiences the "one taste" of all phenomena of saṃsāra and nirvāṇa as equally pure expressions of pristine awareness. The empty essential nature of this awareness is called the dharmakāya, its manifest luminous nature is called the sambhogakāya, and its spontaneous expressions of limitless compassion are called nirmāṇakāyas. The indivisibility of these three embodiments of the transcendent mind of a buddha is called the svabhāvikakāya. The full realization of this transcendent nature of consciousness constitutes the perfect awakening of a buddha, the culmination of all Buddhist practice. One has now fully comprehended the transcendent nature of consciousness, the nature of the mind, and its role in the universe.

The Buddha admonished his followers to put his teachings to the test of reason and experience, rather than simply taking his words on faith: "Monks, just as the wise accept gold after testing it by heating, cutting, and rubbing it, so are my words to be accepted after examining them, but not out of respect [for me]." So rather than regarding the preceding explanation of four aspects of the nature of the mind as matters of religious belief or philosophical speculation, those who are intrigued by this account and are committed to knowing the nature of the mind for themselves should regard this account as a set of hypotheses to be investigated with the utmost rigor. In other words, this account should be viewed as a presentation of Buddhist contemplative science of the mind. It can be tested by anyone with an open mind and sufficient dedication to put these hypotheses to the test of reason and experience, unlike the many materialist speculations about the nature and origins of the mind that are all too often misrepresented as scientific truths.

There are no explicit references in the Pāli canon regarding any unconditioned dimension of consciousness, and with the death of an arhat, the continua of all one's five aggregates, including mental consciousness, are said to

cease forever. However, according to these canonical accounts, the Buddha refers to nirvāṇa as being "unborn, and deathless," and that it is "peaceful, blissful, auspicious" even beyond death. This implies that there must be a dimension of consciousness that persists after the death of an arhat, and it may be to this that the *Kevaddha Sutta* refers in the following passage:

Where consciousness is signless, boundless, all-luminous, that's where earth, water, fire, and air have no basis.

There both long and short, small and great, fair and foul—there "name and form" are wholly destroyed.

With the cessation of consciousness this is all destroyed.

Explanations of pristine awareness in the Great Perfection clearly parallel the teachings on buddha nature in the Mahāyāna canon, specifically those included in the third turning of the wheel of Dharma. The reality of an unconditioned dimension of consciousness is explicitly stated, for example, in the *Mahāparinirvāṇasūtra*, which states, "The Buddha-Nature of beings is eternal and unchanging." And the *Śrimaladevisiṃhanada Sūtra* similarly declares:

The cessation of suffering is not the destruction of a phenomenon. Why? Because the dharmakāya of the Buddha is primordially existent; it is not made, not born, not exhausted, and not to be exhausted. It is permanent, reliable, completely pure by nature, completely liberated from all the sheaths of the mental afflictions . . . and so it is called the cessation of suffering. This is what is called the *tathāgatagarbha*, dharmakāya freed from the veils of the mental afflictions.

Thomas Huxley celebrated the rational and rigorous empirical nature of any true science, while warning all of humanity of the perils of being misled by closed-minded dogmas: "So far as any nation recognizes, or has recognized, the great truth, that every dictum, every belief, must be tested and tried to the uttermost, and swept ruthlessly away if it be not in accordance with right reason, so far is that nation prosperous and healthy; and so far as a nation has allowed itself to be hood-winked and fettered, and the free application of its intellect, as the criterion of all truth, restricted, so far is it sinking

and rotten within." ¹²⁶ If the reduction of the mind to the brain, the repudiation of the existence of consciousness itself, and the dismissal of introspective observation as a means to exploring the mind are valid, then one should be able to verify these assertions for oneself. And the same is true of the above account of the nature of the mind as it is understood in Buddhism, and more specifically in the tradition of the Great Perfection. Huxley makes this same point when he declares, "Every man can, if he pleases, apply to the sources of all scientific knowledge directly, and verify for himself the conclusions of others. In science, faith is based solely on the assent of the intellect; and the most complete submission to ascertained truth is wholly voluntary, because it is accompanied by perfect freedom, nay, by every encouragement, to test and try that truth to the uttermost." ¹²⁷

In his autobiography, Düdjom Lingpa records a visionary dream he experienced in the mid-1850s in which he was given a conch shell and asked to blow it in each of the four directions. The conch's sound roared forth to the west, more so than the other directions, signifying that disciples compatible with him lived in cities to the west. In that direction, he was told, his renown would spread, and he would have as many disciples as the rays of the sun. 128 In his foreword to Düdjom Lingpa's Visions of the Great Perfection, Sogyal Rinpoché writes: "Thirteen of Düdjom Lingpa's disciples attained the rainbow body, and in his prophecies Düdjom Lingpa was told that a hundred might even attain the great transference rainbow body. As Düdjom Rinpoché wrote, 'In this precious lineage of ours, this is not just ancient history. For today, just as in the past, there are those who through the paths of trekchö [cutting through to the original purity of pristine awareness] and tögal [direct crossing over to spontaneous actualization] have attained the final realization and have dissolved their gross material bodies into rainbow bodies of radiant light."129 Düdjom Lingpa's visionary teachings on the Great Perfection repeatedly state that they were intended for people in the future, and there is strong evidence that this future is now, when the need to fathom the nature and potentials of the mind is greater than ever.

The Vajra Essence concludes with these words from Samantabhadra:

In earlier times, the teachings of the Great Perfection shone like the sun. When sublime, supreme teachers explained them to people with good karma and fortune, first they would gain certainty by way of the view. Then they would identify pristine awareness and dispel their flaws by means of meditation. And finally, by practicing, remaining in the conduct of inactivity, they all became siddhas and made manifest the state of omniscient enlightenment. This is the unsurpassed quality of the profound path of the *Vajra Essence*.

Nowadays however, people may meditate while having no experience or familiarity with the view, but identifying merely the natural luminosity of consciousness; they do not go beyond the ordinary, and they never achieve the fruition of omniscient enlightenment. Some teachers are expert at oral explanations, but they cannot reveal the path of liberation, so it is impossible for them to bring much benefit to the minds of others.

Thus, teachers who can explain it are gradually becoming more and more rare, and there is no one who is practicing. As a result, the teachings of the Great Perfection are lost to the point that they are becoming like a drawing of a butter lamp. This tantra has been revealed because of the dependently originated circumstances of the physical worlds and their sentient inhabitants in times such as this.

Like the sun briefly appearing through a break in the clouds, this will not remain for long. Why? Because there are no teachers who know how to explain it, and there are few people who have the karma, prayers, and fortune to receive it. Thus, just as it has emerged from absolute space, it will reabsorb back into it.¹³⁰

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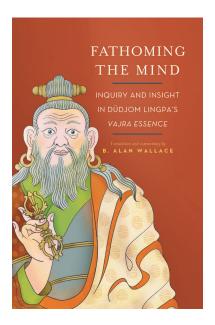
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- 104 Tib. brten pa.
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- 120 Düdjom Lingpa, Vajra Essence, 178.
- Düdjom Lingpa, Buddhahood Without Meditation, 39 (translation slightly modified). According to Sera Khandro's commentary, Garland for the Delight of the Fortunate (Ibid., 253) the nine kinds of activity (Tib. bya ba dgu phrugs) include the body's (1) outer activities, such as walking, sitting, and moving about, (2) inner activities of prostrations and circumambulations, and (3) secret activities of ritual dancing, performing mudrās, and so on; the speech's (4) outer activities, such as all kinds of delusional chatter, (5) inner activities, such as reciting liturgies, and (6) secret activities, such as counting propitiatory mantras of your personal deity; and the mind's (7) outer activities, such as thoughts aroused by the five poisons and the three poisons, (8) inner activities of mind training and cultivating positive thoughts, and (9) the secret activity of dwelling in mundane states of dhyāna.
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