

*Précis of Waking, Dreaming, Being: Self and Consciousness  
in Neuroscience, Meditation, and Philosophy*



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The central idea of *Waking, Dreaming, Being* is that the self is a process, not a thing or an entity.<sup>1</sup> The self isn't something outside experience, hidden either in the brain or in some immaterial realm. It is an experiential process that is subject to constant change. We enact a self in the process of awareness, and this self comes and goes depending on how we are aware.

When we're awake and occupied with some manual task, we enact a bodily self geared to our immediate environment. Yet this bodily self recedes from our experience if our task becomes an absorbing mental one. If our mind wanders, the mentally imagined self of the past or future overtakes the self of the present moment.

As we start to fall asleep, the sense of self slackens. Images float by, and our awareness becomes progressively absorbed in them. The impression of being a bounded individual distinct from the world dissolves. In this hypnagogic state, the borders between self and not-self seem to fall away.

The feeling of being a distinct self immersed in the world comes back in the dream state. We experience the dream from the perspective of the self within it, or the dream ego. Although the entire dream world exists only as a content of our awareness, we identify our self with only a portion of it—the dream ego that centers our experience of the dream world and presents itself as the locus of our awareness.

At times, however, something else happens. We realize we're dreaming, but instead of waking up we keep right on dreaming with the knowledge that we're dreaming. We enter what is called a lucid dream. Here we experience a different kind of awareness, one that witnesses the dream state. No matter what dream contents come and go, including the forms the dream ego takes, we can tell they're not the same as our awareness of being in the dream state. We no longer identify only with our dream ego—the "I" as dreamed—for our sense of self now includes our dreaming self—the "I" as dreamer.

Similarly, while meditating in the waking state, we can simply witness being conscious and watch whatever sensory or mental events occur within the field of our awareness. We can also watch how we may identify with some of them as "Me" or appropriate some of them as "Mine."

According to the Indian yogic traditions, which broadly construed include Buddhism, we can distinguish three aspects of consciousness.<sup>2</sup> The first aspect is awareness, the second is the contents of awareness, and the third is how we experience some of these contents of awareness as "I" or "Me" or "Mine." From this perspective, to understand how we enact a self we need to understand three things—the nature

of awareness and its sensory and mental contents, the mind-body processes that produce these contents, and how some of these contents come to be experienced as “I” or “Me” or “Mine.”

In *Waking, Dreaming, Being*, I take this threefold framework of awareness, contents of awareness, and self-experience—or what the Indian tradition calls “I-making” (*ahaṃkāra*)—and put it to work in cognitive science. Whereas the Indian thinkers mapped consciousness and I-making in philosophical and phenomenological terms, I show how their insights can also help to advance the neuroscience of consciousness by weaving together neuroscience and Indian philosophy in an exploration of wakefulness, falling asleep, dreaming, lucid dreaming, out-of-body experiences, deep and dreamless sleep, forms of meditative awareness, and the process of dying.

The organizing principle for the book comes from the Indian tradition, specifically from the *Upaniṣads*, which arguably contain the world’s first recorded map of consciousness. The earliest texts—the *Bṛhadāraṇyaka* and *Chāndogya Upaniṣads*—delineate three principal states of the self—the waking state, the dream state, and the state of deep and dreamless sleep. The later text of the *Māṇḍūkya Upaniṣad* adds a fourth state—“the fourth” (*turīya*) or pure awareness. Waking consciousness relates to the outer world and apprehends the physical body as the self. Dream consciousness relates to mental images constructed from memories and apprehends the dream body as the self. In deep and dreamless sleep, consciousness rests in a dormant state not differentiated into subject and object. Pure awareness is variously described as underlying these changing states of waking, dreaming, and dreamless sleep or as witnessing them without identifying with them or with the self that appears in them. I use this fourfold structure to organize my exploration of consciousness and the sense of self across the waking, dreaming, and deep-sleep states, as well as meditative states of heightened awareness and concentration.

In the yogic traditions, meditation trains both the ability to sustain attention on a single object and the ability to be openly aware of the entire field of experience without selecting or suppressing anything that arises. In both modes of meditation—one-pointed concentration and open awareness—one learns to monitor specific qualities of experience, such as moment-to-moment fluctuations of attention and emotion, that are difficult for the restless mind to see.<sup>3</sup> One of the guiding ideas of *Waking, Dreaming, Being* is that individuals who can move reliably and flexibly between these different modes of attention and awareness, and who can describe in precise terms how their experience feels from moment to moment, offer a new source of information about the self and consciousness for neuroscience and the philosophy of mind.

Let me give a brief overview of the main ideas from the book’s chapters. Chapter 1 explains the formative Indian image of light or luminosity as the basic nature of consciousness.<sup>4</sup> Indian philosophers often define consciousness as that which is luminous and knowing. “Luminous” means having the power to reveal; “knowing” means being able to apprehend whatever appears. In the waking state, consciousness reveals and apprehends the outer world through the senses; in the dream state,

consciousness reveals and apprehends the inner world of mental images. This chapter also introduces the ancient Indian map of consciousness, which comprises the four states of wakefulness, dreaming, deep and dreamless sleep, and pure awareness.

Chapter 2 focuses on attention and perception in the waking state. I compare theories and findings from cognitive neuroscience with Indian Buddhist theories of attention and perception. According to both perspectives, although the stream of consciousness may seem to flow continuously, upon closer inspection it appears to be made up of discrete moments of awareness that depend on how attention shifts from one thing to another. I review evidence from neuroscience showing that focused attention and open-awareness forms of meditation have measurable effects on how attention structures the stream of consciousness into discrete moments of awareness. I conclude by using both Buddhist philosophy and cognitive neuroscience to argue that in addition to these discrete moments we also need to recognize a more slowly changing background awareness that includes the sense of self and that shifts across waking, dreaming, and dreamless sleep.

Chapter 3 takes up the question of whether the basic nature of consciousness as pure awareness transcends the brain and living body, as Indian and Tibetan philosophers traditionally claim, or whether it is dependent on the brain and living body. I describe a dialogue on this question with the fourteenth Dalai Lama in which I participated, at his refugee home in Dharamsala, India, and I explain the basis in Buddhist philosophy for the Dalai Lama's view that consciousness transcends the brain.<sup>5</sup> I argue, however, that there is no scientific evidence to support this view. All the evidence available to us indicates that consciousness is contingent on the brain. Nevertheless, my point of view is not a materialist one, for two reasons. First, consciousness has a cognitive primacy that materialism fails to see. There is no way to step outside consciousness and measure it against something else. Science always moves within the field of what consciousness reveals; it can enlarge this field and open up new vistas, but it can never get beyond the horizon set by consciousness. Second, since consciousness has this kind of primacy, it makes no sense to try to reductively explain consciousness in terms of something that is conceived to be essentially non-experiential, as physicalists conceive of fundamental physical phenomena. Rather, understanding consciousness as a natural phenomenon is going to require rethinking our scientific concepts of nature and physical being.

Chapters 4, 5, and 6 concern falling asleep, dreaming, and lucid dreaming. I begin with the state leading into sleep, the hypnagogic state, in which strange images make their way before our eyes and we hear sounds or what seem like conversations going on around us or inside us. Whereas normal waking consciousness is ego-structured—we experience ourselves as bounded beings distinct from the outside world—this structure dissolves in the hypnagogic state. There is no ego in the sense of an “I” who acts as a participant in a larger world, and there is no larger world in which we feel immersed. Instead, there is a play of images and sounds that holds consciousness spellbound. In short, two key features mark the hypnagogic state—a dissolution of ego boundaries and an attention drawn to what consciousness spontaneously imagines.

The ego structure of consciousness returns in the dream state. In the dream state we experience being in the dream world. Sometimes we experience it from an inside or first-person perspective; sometimes we see ourselves in it from an outside or third-person perspective. These two perspectives also occur in memory, where they are known as “field memory” and “observer memory.” Yet even in the case of the observer perspective in a dream, we experience ourselves as a subject situated in relation to the dream world. At the same time, the spellbound attention that arises in the hypnagogic state also characterizes the dream state, so it, too, is a kind of captivated consciousness.

All this changes in a lucid dream. The defining feature of a lucid dream is being able to direct attention to the dreamlike quality of the state so that one can think about it as a dream. When this happens, the sense of self shifts, for one becomes aware of the self both as dreamer—“I’m dreaming”—and as dreamed—“I’m flying in my dream.”

In these three chapters I review findings from sleep science that show that each state—the hypnagogic state, dreaming, and lucid dreaming—is associated with its own distinct kind of brain activity.

I end my discussion of dreaming by criticizing the standard neuroscience conception of the dream state as a form of delusional hallucination. Instead, I argue that dreaming is a kind of spontaneous imagination. I also argue that dreaming is not a passive epiphenomenon of the sleeping brain, for intentional mental activity in dreaming, especially in lucid dreaming and meditative practices of lucid dreaming, actively affects the sleeping brain.

Chapter 7 examines out-of-body experiences. In an out-of-body experience, you feel as if you’re located outside your body, often at an elevated vantage point. Yet far from showing the separability of the self from the body, out-of-body experiences reinforce the strong connection between the body and the sense of self. These aren’t experiences of disembodiment; they’re experiences of altered embodiment. You see your body as an object at a place that doesn’t coincide with the felt location of your visual and vestibular awareness. In this way, there’s a dissociation between your body as an object of perception and your body as a perceptual subject and attentional agent. Out-of-body experiences reveal something crucial about the sense of self: you locate yourself as an experiential subject wherever your attentional perspective feels located, regardless of whether this happens to be the place you see your body as occupying.

Out-of-body experiences provide no evidence that one can have an experience without one’s biological body, for the body remains present throughout. Furthermore, experiences with many of the features of out-of-body experiences can be brought about by direct electrical stimulation of certain brain regions and by virtual reality devices. So out-of-body experiences are brain-dependent.

Chapter 8 asks whether consciousness is or can be present in deep and dreamless sleep. Most neuroscientists and philosophers of mind today assume that dreamless sleep is a blackout state in which consciousness fades or disappears completely. In contrast, the Indian philosophical schools of Yoga and Vedānta, as well as

Indian and Tibetan Buddhism, maintain that a subtle form of awareness continues to be present in dreamless sleep. I present the Indian philosophical case for deep sleep being a mode of consciousness and show that none of the behavioral or physiological evidence from sleep science suffices to rule out there being a mode of consciousness in dreamless sleep. Hence, the standard neuroscience way of trying to define consciousness as that which disappears in dreamless sleep needs to be revised. Yoga, Vedānta, and Buddhism assert that the subliminal consciousness present in dreamless sleep can become cognitively accessible through meditative mental training. I present some preliminary evidence from sleep science in support of this idea. I end the chapter by proposing that we need to enlarge sleep science to include contemplative ways of training the mind in sleep. This project will require sleep scientists, anthropologists, meditation practitioners, and contemplative scholars of the Indian and Tibetan traditions to work together to map the sleeping mind.<sup>6</sup>

Chapter 9 investigates what happens to the self and consciousness when we die. Neuroscience and biomedicine talk about death as if it were essentially an objective and impersonal event instead of a subjective and personal one. From a purely biomedical perspective, death consists in the breakdown of the functions of the living body along with the disappearance of all outer signs of consciousness. Missing from this perspective is the subjective experience of this breakdown and the existential significance of the inevitable fact of one's own death. In contrast, Tibetan Buddhism presents a vivid account of the progressive breakdown of consciousness and the dissolution of the sense of self during the dying process. It also describes how to face this process in a meditative way. According to Tibetan Buddhism—as well as Yoga and Vedānta—great contemplatives can disengage from the sense of self as ego as they die. Resting in an experience of pure awareness, they can watch the dissolution of their everyday “I-Me-Mine” consciousness and witness their own dying with equanimity.

Near-death experiences during cardiac arrest provide an important case for investigating how the mind meets death and the relationship between consciousness and the body. Although these experiences are often presented as challenging the view that consciousness is contingent on the brain, I argue that none of the evidence brought forward to support this position is convincing. Instead, all the evidence to date, when examined carefully, supports the view that these experiences are contingent on the brain.

At the same time, we should avoid the trap of thinking that the reports of near-death experience after resuscitation from cardiac arrest must be either literally true or literally false. This way of thinking remains caught in the grip of a purely third-person view of death. Dying and death must also be understood from the first-person perspective. We need to stop using accounts of these experiences to justify either neuroreductionist or spiritualist agendas and instead take them seriously for what they are: narratives of first-person experience arising from circumstances that we will all in some way face.

Chapter 10 targets the view widespread in neuroscience and “neurophilosophy” that the self is nothing but an illusion created by the brain. I call this view “neuro-

nihilism." I argue that although the self is a construction—or rather a process that is under constant construction—it isn't an illusion. A self is an ongoing process that enacts an "I" and in which the "I" is no different from the process itself, rather like the way dancing is a process that enacts a dance and in which the dance is no different from the dancing. I call this the "enactive" view of the self. This chapter presents a systematic statement of the enactive view and shows how I-making happens at multiple biological, psychological, and social levels. The discussion combines elements from Buddhist philosophy (specifically from the "Middle Way" or Madhyamaka school), biology, cognitive science, and the neuroscience of meditation.

Although cognitive science and the Indian yogic philosophical traditions form the core of this book, I also draw from a wide range of other sources: poetry and fiction, Western philosophy, Chinese Daoism, and personal experience. By weaving together these diverse sources, I hope to demonstrate a new way to relate science and what many people like to call spirituality. Instead of being either opposed or indifferent to each other, cognitive science and the world's great contemplative traditions can work together on a common project—understanding the mind and giving meaning to human life. Two extreme and regressive tendencies mark our era: (1) the resurgence of religious extremism and outmoded belief systems and (2) the entrenchment of scientific materialism and reductionism. Neither mindset realizes the value of meditation and of the contemplative way of life as a source of wisdom and first-hand knowledge essential to a mature cognitive science that can do justice to our entire way of being—to our spirit, to use an older idiom.<sup>7</sup> My book upholds a different vision. By enriching science with contemplative knowledge and contemplative knowledge with cognitive science, we can work to create a new scientific and contemplative appreciation of human life, one that no longer requires or needs to be contained within either a religious or an anti-religious framework.

## Notes

- 1 – The following Précis draws extensively from the Introduction to *Waking, Dreaming, Being*, pp. xxxi–xl.
- 2 – I use the terms "yogic traditions" and "yogic philosophies" in a broad sense that includes Buddhism. For justification of this usage, see Stephen Phillips, *Yoga, Karma, and Rebirth: A Brief History and Philosophy* (New York: Columbia University Press, 2009), pp. 4–5.
- 3 – See Antoine Lutz, Heleen A. Slagter, John D. Dunne, and Richard J. Davidson, "Attention Regulation and Monitoring in Meditation," *Trends in Cognitive Sciences* 12 (2008): 163–169, and Antoine Lutz, Amishi Jha, John D. Dunne, and Clifford D. Saron, "Investigating the Phenomenological and Neurocognitive Matrix of Mindfulness-Related Practices," *American Psychologist* 70, no. 7 (2015): 632–658.

- 4 – See Chakravarthi Ram-Prasad, *Indian Philosophy and the Consequences of Knowledge: Themes in Ethics, Metaphysics, and Soteriology* (Hampshire, England and Burlington, VT: Ashgate, 2007), chap. 2.
- 5 – See Dalai Lama, *The Universe in a Single Atom: The Convergence of Science and Spirituality* (New York: Morgan, 2005).
- 6 – For further discussion of these issues, see Evan Thompson, “Dreamless Sleep, the Embodied Mind, and Consciousness: The Relevance of a Classical Indian Debate to Cognitive Science,” <http://open-mind.net/papers/dreamless-sleep-the-embodied-mind-and-consciousness-the-relevance-of-a-classical-indian-debate-to-cognitive-science>; Jennifer M. Windt, “Just in Time—Dreamless Sleep Experience as Pure Subjective Temporality: A Commentary on Evan Thompson,” <http://open-mind.net/papers/just-in-time-dreamless-sleep-experience-as-pure-subjective-temporality-a-commentary-on-evan-thompson>; and Evan Thompson, “Steps Toward a Neurophenomenology of Sleep: A Reply to Windt,” <http://open-mind.net/papers/steps-toward-a-neurophenomenology-of-consciousness-in-sleep-a-reply-to-jennifer-m-windt>.
- 7 – See Pierre Hadot, *Philosophy as a Way of Life: Spiritual Exercises from Socrates to Foucault*, ed. with introd. Arnold Davidson (Malden, MA: Blackwell Publishing, 1995). See especially “Part II: Spiritual Exercises.”

## Response to Commentators on *Waking, Dreaming, Being*



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Let me begin by thanking my commentators for taking the time to read my book and to write such constructive commentaries. I would also like to thank Christian Coseru for organizing and chairing the panel at the International Society for Buddhist Philosophy at the 2015 meeting of the Pacific Division of the American Philosophical Association, at which three of the commentaries were originally presented together with my response. Finally, I am grateful to *Philosophy East and West* for publishing this exchange. *Philosophy East and West* published my first academic paper, so I am especially happy to have this exchange appear here.<sup>1</sup>

In what follows, I have arranged my response according to the topics and issues raised by the commentators, rather than responding separately to each author.

### *Autobiography and Phenomenology*

Owen Flanagan invites me to say more about the autobiographical quality of my book. His invitation overlaps the first group of questions that Jennifer Windt asks in her rich and reflective commentary. She wonders whether my use of my own experience reports “exemplifies a distinct philosophical practice” and plays “a unique argumentative function.” She raises three specific questions. First, she asks “whether an author’s own experience reports have a privileged evidential status in the context of theoretical arguments, both in general and in philosophy of mind in particular.” Second, she asks whether gaining firsthand familiarity with the types of experience one is investigating is “not just beneficial, but perhaps even necessary for certain types of philosophical work, for instance on meditation or dreams.” Finally, she asks about the implications of using first-person methods and relying on experience reports for teaching philosophy. Should we provide opportunities and methods for students to observe firsthand the experiences we are philosophically investigating?

Let me begin with an autobiographical remark. When I was growing up I would often hear my father say—attributing the remark to Thomas Mann—that scholarship is frequently disguised autobiography. By this he meant that scholarly narratives, usually about history or literature, tend to be hidden, projective self-descriptions. Authors present themselves as impartially defending views that are really identity constitutive of their psyche or social role, all the while remaining blind to this fact, and thereby suffering from false consciousness. It is interesting to consider whether this accusation would be justified for any given philosophical text. In any case, the fact remains that philosophers today, especially so-called “analytic” philosophers, strive for a maximally impersonal form of expression, one in which the author’s per-

sonal life and history play no role in the exposition. We state and defend philosophical views, but how we came to hold these views is supposed to be a contingent matter that is of no essence to the philosophy. As we learn in the philosophy of science, there is the “context of discovery” and the “context of justification,” and justification is supposed to be what is philosophically important. In writing *Waking, Dreaming, Being*, I wanted to do a different kind of philosophy. I wanted to produce a philosophical narrative in which the autobiographical story behind the philosophical concerns wasn’t hidden or disguised. That meant being forthright about how I came to be preoccupied with certain questions about the self and mind and consciousness, and about why the effort to negotiate among contemplative practice, Indian philosophy, and cognitive science had become existentially mandatory for me. My hope in writing this way was that readers—especially those outside academic philosophy—would be able to see why philosophy matters and how it can animate a personal intellectual quest and the way one lives one’s life.

In this way, my use of autobiography and experience reports is meant to serve a distinct philosophical practice. The practice is to write philosophy in a way that reveals its sources and motivations in one’s life, and to be forthright about how one comes to hold certain views and change them in dialogue and debate with others. The argumentative function of writing this way is not so much to argue for any particular conclusion, but rather to make a case for philosophy altogether as part of the reflective and examined life.

In the case of using reports of my own particular experiences, my aim was not just to provide engaging illustrations for the reader, but also and more importantly to exhibit phenomenology as a philosophical method. As Windt notes, “Proper phenomenology is not done in the proverbial armchair; it is something that requires systematic and rigorous self-observation.” In other writings I have defended the importance of this kind of phenomenology in contrast to approaches that downplay the importance of first-person investigations.<sup>2</sup> Instead of repeating those points here, let me give an example of something I learned from carrying out this kind of phenomenology while I was writing the chapters on dreaming.

Although I’ve always been an active and vivid dreamer, and usually I write down especially memorable dreams, I never kept a dream journal until I started writing the chapters about dreaming for my book. Over the course of about a year, I diligently recorded my dreams while also experimenting with various self-observation methods, such as Tore Nielsen’s upright-napping method for the study of sleep onset imagery.<sup>3</sup> Along the way I reread Jorge Luis Borges’ essay, “Nightmares,” in which he makes the point that waking reports of dreams can give dreams a structure they may not have had in sleep. Borges’ example is dreaming of a man, simply the image of a man, and then, immediately after, dreaming of a tree—just the image of a tree: “Waking, I can give this dream a complexity it does not have: I can think I have dreamed that a man has been changed into a tree, that he was a tree. Modifying the facts, I spin a tale.”<sup>4</sup> Borges’ point made me realize that, in writing down my dreams, I was often giving them a kind of narrative structure that a more attentive recollection did not support. This realization affected how I would attend to the dream memory when I

woke up and how I would record the dream. Instead of rushing to write down the dream as if I were telling it to someone as a story, I would try to trace the dream back from the most recently remembered image to the earliest one, and then move forward again, attending as carefully as I could to how one image gave way to the next one. The whole effort required a form of open awareness with a relaxed and inquisitive attention, not unlike the practice of meditation. The dream report I present on page 136 came from this kind of careful self-observation.

Another thing that Borges, together with my own self-observation, made me realize is that dream reporting is a cultural practice. I grew up in a family where sharing dreams in the morning over breakfast was valued and encouraged, and where dreams were often seen as sources of special insights. Sharing dreams in this way encourages telling them as stories. Of course, many societies and cultures value dream stories. How practices of storytelling help to constitute dream experiences and dream reporting is a fascinating area of study in the cognitive anthropology of dreams. For neurophenomenology, however, we also need dream reports based on careful self-observation in both home and sleep laboratory settings. In other words, we need phenomenological observations in the strict sense that Windt mentions and discusses extensively in her work.<sup>5</sup> Such observations strive to be vigilant with regard to how habits and practices of attention and memory, and ways of reporting experiences, shape what counts as a dream or dream report in a given context. Carrying out this kind of phenomenology, however, is a cultural practice, too. So it would be a mistake to think that neurophenomenology gives us a view of ourselves from outside culture. By the same token, we can also envision communities of neurophenomenological investigators for whom the careful self-observation of states of consciousness across the wake-sleep cycle is as important as electrophysiology or brain imaging.

As these remarks indicate, my answer to Windt's question about whether gaining firsthand familiarity with certain types of experience is necessary for philosophical research on these kinds of experience is yes. In my view, in order to comprehend certain types of experience—including comprehending the contents of the propositions describing these types of experience—it is necessary (though not sufficient) to have this type of experience oneself. Dreams and certain types of meditative states belong to this category.

As for the question of whether an author's own experience reports have a privileged evidential status in the philosophy of mind, my answer would depend on exactly what we mean by "privileged." Proper phenomenology requires constantly redoing descriptions of lived experiences afresh, rather than resting content with accepting descriptions already done by others and using them as the basis for textual analysis or theoretical argumentation. At a methodological level, therefore, an author's own experience reports do have a special status, not in the sense that they are epistemically privileged by being infallible, indubitable, or incorrigible, but rather in the sense that they ground the philosophical analysis in the concrete experiential phenomena that one seeks to understand. In addition, they foster an attitude of keeping oneself implicated in the questions one asks. This reflexive attitude marks philosophy off from science and makes it more than simply third-person theory construction.

It is precisely this reflexive attitude that I tried to embody and exemplify in *Waking, Dreaming, Being*.

To say that philosophy puts oneself into question or is the kind of practice that puts itself into question implies that in teaching philosophy we need to create opportunities for students to learn this way of being and thinking. For this reason, I would give an emphatic yes to Windt's question of whether we should provide opportunities and methods for students to observe firsthand the experiences we are philosophically investigating. Indeed, she answers her own question by describing the innovative meeting of the Mind Group that she and Thomas Metzinger organized in 2013. For me, too, this was an exceptional event, due in great measure to the vision with which Metzinger and Windt conceived and designed the event, and the commitment and dedication they brought to every aspect of it. Philosophy would benefit greatly from more of these kinds of events and I hope to participate in such events again.

### *Dreaming and Imagination*

In *Waking, Dreaming, Being* I argue that to dream is to imagine, not to have false perceptions. When we dream, we don't have pseudo-perceptions—experiences that present themselves as subjectively exactly like perceptions and that form the basis for false beliefs. Rather, we imagine a dream world and we identify with our dream ego. In this way, I reject the standard neuroscience view, according to which dreams are delusional, hallucinatory perceptions.

The following considerations support the imagination conception:

1. Dreams can be indeterminate in their sensory features—for example, indeterminate in color—in the way that mental images can be indeterminate in such features.
2. The development of dreaming in children coincides with the development of imaginative capacities.
3. The neural areas and processes required for dreaming are not the same as the ones needed for sensory experience but are the same as the ones needed for imagination (mental imagery and perspective taking).
4. To dream that you believe that  $p$  is not necessarily to believe that  $p$ ; similarly, to imagine that you believe that  $p$  is not necessarily to believe that  $p$ .
5. Dreaming is sometimes continuous with waking imagination, as in the case of vivid daydreaming.
6. Dreaming is subject to the will in a way that more closely resembles imagining than it does perceiving.
7. What we dream and what we imagine are directly determined by the focus of attention in a way that more closely resembles imagination than perception. Perceptual experience has a sensory foreground-background structure, in which selective attention determines the foreground while the background is pre-attentive or diffusely attended. Neither dreaming nor visual imagination seems to have this kind of foreground-background structure; rather, selective attention directly determines the

sensory content of the dream image or visualized object, while the background is due to cognitive supposition. For example, while having a flying dream I image whatever I attend to—for example the trees directly below me. To say that I don't notice the mountain ridge is not to say that it is there as part of an imaged but unnoticed sensory background; rather, it is to say that it is absent because I am not generating any sensory imagery of mountains. Of course, I can still dream *that* the mountain ridge was there all along, but in this case I use cognitive imagination (supposition) to constitute the dream world as being a certain way. These points carry over to imagination (mental imagery) but not to perception. Not noticing something in a dream or in mental imagery seems no different from its not being part of the dream image or the mental image. In this way, the sensory content of the dream or the mental image is directly determined by the focus of attention, in a way that does not seem to be the case for perceptual experience. To put the point another way, perceptual experience has a pre-attentive sensory horizon in a way that dreaming and imagination do not; in their case, the horizon is not due to *imaging* but rather to *imagining that* or cognitive supposition.

Windt takes issue with point (7) but she seems to misunderstand the point at issue. The issue concerns the phenomenal structure of perceptual experience, not the epistemic status of perception or "perception" as a success word. My claim is that the phenomenal structure of perceptual experience comprises a selectively attended sensory foreground together with a pre-attentive sensory background. Thus, the content of selective attention does not exhaust the sensory content of the experience.<sup>6</sup> In contrast, both the dream state and mental imagery lack this kind of sensory foreground-background structure, and the phenomenal sensory content of both states is exhausted by that of selective attention. Windt states, "The issue here, however, is the attention-dependence not of perceptual objects but of perceptual experience. And here, we can again raise the familiar point that there is no more to perceptual *experience* than what is in fact experienced." I agree, but my point is that what is sensorily experienced in perceptual experience outstrips selective attention, whereas what is sensorily experienced in a dream or visualized mental imagery does not.

Windt argues that my reasons for maintaining the imagination view of dreaming (1–7 above) are compatible with a view of imagining and perceiving as continuous and of dreams as blurring the sharp boundaries between them. She proposes that "dreaming shares some aspects of waking perception and others of imagination, but falls neatly into neither category." I agree with these points, for, as Windt notes, my view is that perception, imagination, hallucination, and dreaming form a continuum, in which dreaming is located at the imagination end of the spectrum. I completely agree with Windt that we should not conceive of imagining and perceiving as distinguished along a single dimension, that dreams can resemble waking perceptual experience in some respects and imagination in other respects, that we need to develop new conceptual tools for describing all these states, and that "a profound reorganization of the existing taxonomy of wake states is needed." Indeed, my considered view today—which was not adequately stated in *Waking, Dreaming, Being*—is that

dreaming is a *sui generis* state, one that cannot be strictly modeled on either perception or imagination, but that nonetheless does partake of important features we see in imagination, in ways that the standard neuroscience conception of dreaming as delusional hallucination completely misses.

Indeed, from this perspective, I can venture a critical point about Windt's use of the concept of "hallucination" in her model of dreaming as "immersive spatio-temporal hallucination" occurring during sleep or sleep-wake transitions.<sup>7</sup> On the one hand, she states that "empirical evidence . . . supports the view that perception, hallucination, and waking imagination are deeply similar, both phenomenologically and in terms of underlying neurocognitive mechanisms."<sup>8</sup> On the other hand, she also states that dreams "fit the philosophical concept of hallucination, which is defined as 'an experience which seems exactly like a perception of a real, mind-independent object, but where there is no mind-independent object of the relevant kind being perceived'."<sup>9</sup> This claim seems wrong to me. Dreams do not seem subjectively "exactly like" perceptual experiences as of objects in the world, for precisely the reasons I have mentioned here. Indeed, it seems to me that real-world cases of hallucination (in contrast to the hypothetical, philosophical cases of hallucination) subjectively resemble dreams in certain crucial respects rather than being subjectively indistinguishable from veridical perceptual experiences.

Finally, Windt sees a tension between my characterization of waking experience in general as imaginative and the distinction I make between imaginative versus perceptual waking states when discussing dreaming. She asks how the broader characterization of imagination relates to the narrower one. This is an important question, one that I did not fully address in *Waking, Dreaming, Being*, and one to which I can give only a schematic answer here. The difference between the two conceptions that I have in mind is not unlike Kant's distinction between the productive imagination and the reproductive imagination. Roughly stated, the productive imagination is the spontaneous synthesis of sensory stimuli into cognitions that give us the experience of a meaningful world; the reproductive imagination is the capacity to call forth images from memory. When I claim that wakefulness is an imaginative state fed by sense perception and dreaming is an imaginative state fed by memory and emotion, I am using "imaginative" in a sense analogous to Kant's idea of the productive imagination, whereas when I claim that dreaming resembles mental imagery or waking imagination (daydreaming), I am using "imagination" in a sense analogous to Kant's idea of the reproductive imagination. The idea, in general terms, is that to explain perceptual experience, dreaming, and imagination (in the narrower sense), we cannot proceed just by considering stimulus-induced responses to sensory input; rather, we must take account of the ongoing internal, spontaneous, and synthetic self-organizing activity of the mind and brain.<sup>10</sup> Such activity is imaginative in a way analogous to Kant's concept of the productive imagination, because its syntheses are novel and unprecedented relative to the stimuli, and they make experience meaningful.

Although more needs to be said about these two kinds of imagination and how they relate to each other, the Kantian provenance of the distinction between the two

seems enough to show that the broader characterization of imagination does not undermine the narrower distinction.

### *Staying with the Open Question and Physicalism*

Flanagan questions the agnostic attitude I recommend of withholding judgment on the issue of whether consciousness survives after death. He wonders how we should think of this attitude in relation to (what he sees as) the overall evidence in favor of physicalism. To make the question more pointed, if the scientific method of inference to the best explanation supports physicalism, then why should we adopt an agnostic attitude on the question of whether consciousness survives death?

Here some clarifications are in order. I use the expression “staying with the open question” to describe an existential attitude to be cultivated with regard to the question of whether any kind of consciousness or awareness persists in some way after one’s biological death. The expression evokes the sense of the ancient Greek term *epoché*, which the Skeptics used to mean the resolute refraining from assent or dissent. I recommend this attitude with regard to the existential question of what happens to one’s consciousness at death because it seems to me that we are not in a position to know decisively that consciousness exhaustively supervenes on life-regulation processes, such that biological death entails the total termination of all consciousness. I also think that staying with the open question is an important contemplative exercise for preparing to face the dying process, either as a caregiver or in one’s own case, something I learned from the “Being with Dying” end-of-life care training program I describe in chapter 9 of my book.

By contrast, physicalism is a metaphysical and explanatory framework. According to physicalism, everything spatiotemporal is physical, and physical science is the final authority in the explanation of spatiotemporal phenomena. As a conceptual matter, physicalism, so defined, does not rule out the possibility of consciousness surviving biological death. Suppose that at some point we had evidence or reason to believe that a type of consciousness exists that is not strictly dependent on brain function and that survives biological death. Such evidence would not necessarily entail that physicalism is false, though it would entail that the contemporary neuroscience version of physicalism—“neurophysicalism,” to use Flanagan’s term—is false. After all, faced with such evidence, physicists would seek to incorporate it into their understanding of physical nature and physical law. It would remain an open question, at least for a while, whether physicalism could accommodate such evidence or whether some other, post-physicalist view was required.

Part of the problem, and why I think that appealing to physicalism is not useful, is that the concept of the “physical” is not well defined. Consider Carl Hempel’s dilemma for physicalism.<sup>11</sup> If physicalism is defined via reference to contemporary physics, then it is false, on the assumption that contemporary physics is incomplete. But if physicalism is defined via reference to a future or ideal physics, then it is empty, because we don’t know what such a future physics will contain. For example,

for all we know the physics of the future will contain some irreducible or *sui generis* kind of phenomenality—maybe something like William James’ concept of “pure experience” or something resembling the Indo-Tibetan notions of “pure awareness” that I discuss in my book. If we say that such a theory could not possibly count as a “physical” theory, then we are introducing *a priori* conceptual constraints on what can count as “physical,” and we should no longer call ourselves naturalists.

So let’s ask whether inference to the best explanation establishes *neurophysicalism*. Flanagan thinks it does, but I disagree. Here we need to distinguish between “creature consciousness”—the being conscious of the organism or person—and other possible forms of awareness or mind. In the case of creature consciousness, I argue in my book that there is no compelling evidence that it transcends the brain or the living body. In this case, the inference to the best explanation is that consciousness is brain-dependent or dependent on the living body. Nevertheless, given that we presently have no clue how to give a scientific explanation of the presence of consciousness in nature, especially how to explain the phenomenon of consciousness in strictly neurobiological terms, we have no warrant for concluding that consciousness in every respect supervenes on neurobiological processes. Inference to the best explanation works only when we have eliminated rival, alternative hypotheses.

But we have hardly done this in the case of consciousness. Consider that panpsychism—of the sort that Galen Strawson advocates—can also explain the contingency of creature consciousness on the brain, as can neutral monism.<sup>12</sup> Panpsychism implies that, as an entirely natural matter of fact, aspects or elements of consciousness—not creature consciousness but more primitive or basal, constituent forms of consciousness—remain present after biological death. Indeed, the idea that creature consciousness at death undergoes a kind of phenomenal dissolution into constituent phenomenal elements—an idea central to Indian and Tibetan Buddhist conceptions of the dying process—may make more sense from a panpsychist perspective than from a neurophysicalist one. In any case, in order to use inference to the best explanation to support neurophysicalism, we would need a way to reject panpsychism and neutral monism. But, as far as I can see, we are far from being able to rule out these two views, and, moreover, they may have their own advantages compared to neurophysicalism. So, although I allow, and indeed argue, that the brain, or living body more generally, is required for creature consciousness—or to put the point the way I did in my book *Mind in Life*, that creature consciousness is a life-regulation phenomenon<sup>13</sup>—I don’t see decisive reasons to endorse neurophysicalism as an inference to the best explanation.

Flanagan also asks about the role that I see for meditation in this investigation. One way to understand this question is to ask what individuals with meditative training can offer to cognitive science. Here it is helpful to remember that most experimental results in cognitive science come from studying participants who are not only “WEIRD”—Western, Educated, and from Industrialized, Rich Democracies—but who also tend to be university undergraduate students and clinical patients. We don’t

yet have a cognitive science informed by results that come from studying individuals who devote some significant portion of their lives to contemplative practice. So one thing individuals with meditative training can offer to cognitive science is new and potentially richer data about the range of developmental possibilities for the human mind. It also stands to reason that such individuals may be able reliably to generate and maintain precisely specified states of attention and awareness, making such states easier to investigate. Finally, the working hypothesis of neurophenomenology is that individuals trained in mindfulness meditation practices may be able to give more precise self-reports about moment-to-moment subjective experience, and that such reports can be used to uncover more fine-grained information about the shifting, dynamic patterns of brain activity associated with cognition across the wake-sleep cycle.<sup>14</sup> I give illustrations of all these ideas in my book.

Flanagan wishes to know whether meditation helps us “to see the truth, the way things really are,” or whether meditation produces hallucinations or imaginary states that may have beneficial effects. He recognizes, of course, that talking about “meditation” in this way is like talking about “sports”—it comes in different kinds, can be done in different ways in different contexts, and can have different effects on the mind and body. Although some types of yogic meditation practices could be described (etically rather than emically) as producing hallucinations or imaginal states for results believed to be beneficial, the point of mindfulness styles of practice is generally said to be to help one see things with a minimum of cognitive and affective bias, though the extent to which they are successful in this regard remains an open question.<sup>15</sup> I am willing to say, or at least to hypothesize, that such practices can help us to see or comprehend certain truths—for example, truths about how our experience of being or having a self is cognitively and affectively constructed, both in the moment and across the wake-sleep cycle, as I discuss in my book. In other words, mindfulness meditation can be an important contributor to self-knowledge. That said, I certainly don’t think that mindfulness meditation, in playing this role, can stand by itself apart from science and philosophy. That’s why I state that the task of my book is to envision a new kind of self-knowledge, one that combines and integrates cognitive science and contemplative practice and theory.

Let me make one more remark about science. Flanagan wonders whether we can include “cross-cultural sources from completely non-scientific cultures” in this endeavor. I’m suspicious of the conception of science that lets Flanagan portray the Indian cultural tradition as “non-scientific.” As Jonardon Ganeri has recently argued, “science in India has its own history, one that should be studied in comparison and contrast with the history of science in Europe,” as well as the history of science in China.<sup>16</sup> In particular, using ideas from Philip Kitcher, Ganeri argues that our definition of “science” should be enlarged to mean “a well-ordered epistemic culture facilitating the production of public knowledge.”<sup>17</sup> Given this definition, Indian (and Tibetan) logical and epistemological theories (as well as medical theories) can be seen as science, and Indian (and Tibetan) cultures should not be characterized as “non-scientific,” according to one particular and tautologically self-reinforcing conception of science as “Western.”

## *The Self*

John Dunne and Jay Garfield both take me to task for my interpretation of Candrakīrti. They say that Candrakīrti does deny the existence of the self, so I've gotten Candrakīrti wrong. Garfield also argues that my philosophical view of the self, apart from the question of its accuracy with regard to Candrakīrti's view, is wrong, whereas Candrakīrti (according to Garfield's interpretation) is right.

Let me say something about what I was trying to do in using Candrakīrti and Madhyamaka more generally. The idea was to use the Madhyamaka insight that although there is no inherently existent self there is nonetheless a conventional self or person, in order to criticize contemporary views, such as Thomas Metzinger's, that argue that there is no self in any sense because there is no substantially existent self.<sup>18</sup> In my view and in Madhyamaka terms, such views, while avoiding the extreme of "reification," fall prey to the other extreme of "nihilism." So what was at stake for me in using Madhyamaka was to show why "neuro-nihilism" is misguided, and how the Madhyamaka idea of the person as conventionally existent can be illuminated by a cognitive-science account of how the conventional self gets constituted. This is the point of my enactive account of the self as constituted through various kinds of "self-specifying" or "I-making" processes.

Let me also point out that my reading of Candrakīrti isn't original; it is taken from James Duerlinger.<sup>19</sup> And although the philosophical use to which I put his reading is my own, that philosophical use is inspired by and relies heavily on Jonardon Ganeri's similar use of Candrakīrti.<sup>20</sup> So, two questions are important here. First, what is the correct interpretation of Candrakīrti? And second, is the philosophical view of the self that Ganeri and I advocate correct? Or is it at least an improvement over certain other contemporary views, specifically the view I call "neuro-nihilism"?

On Duerlinger's reading, Candrakīrti means to deny two extreme views. One extreme is that the self has real existence, which means that it exists by itself or by its own nature, apart from anything else. This extreme is negated because the person is empty of independent existence (there is an absence of an ultimately real self in the person). The other extreme is that the self lacks even a nominal existence. This extreme is negated because there is a conventionally existent self, that is, a self that is projected by thought onto the mind-body aggregates when they appear, and this self "only nominally exists in the sense that it is an imputation of thought to which a name is assigned on the basis of convention."<sup>21</sup> Such a conventionally existent self is neither the same as nor different from the mind-body aggregates, because it is a phenomenon not by itself but only in relation to the mind that projects it and the aggregates upon which it is projected. This nominal self, however, appears to the unenlightened mind as if it were separately existent; that is, it appears as having an existence that it does not have.

Now, my question to both Dunne and Garfield is: what is the mistake in this reading? Specifically, when Garfield quotes verses 163 and 164 of Candrakīrti's *Madhyamkāvatāra* and *Bhāṣya*, what exactly is Candrakīrti denying? The Padmakara Translation Group's translation of verse 163 reads:

The self is not a real existent thing, and thus it is not constant,  
And it is not inconstant, for it has no birth or ending.  
Attributes like permanence do not apply to it.  
And it is not, nor is it other than the aggregates.<sup>22</sup>

Isn't what's being denied here that there is a really existent self, one that would have to be either the same as or different from the aggregates? How is this supposed to be a denial of the self as merely conventional or nominal? The Padmakara Translation Group's translation of verse 164 reads:

But linked to this, continuously and strongly, beings cling to "I."  
And all that "I" possesses is conceived as "mine."  
This self will continue to manifest empirically, the fruit of ignorance,  
As long as it's not subject to analysis.<sup>23</sup>

How should we take the reference of "This self"? Doesn't it refer to the appearance of the conventional self as being a real self, that is, our ingrained belief that the conventional self is ultimately real? How is it supposed to be a denial of the mere conventional self? (These questions are not meant to be rhetorical.)

As a way of bridging from this discussion to my own view, let me quote a passage from Duerlinger's analysis, because it was part of the motivation or inspiration for my attempt to use Candrakīrti to criticize the contemporary position I call "neuro-nihilism," which asserts that there is no self in any sense, that no one ever was or had a self in any meaningful sense of the term. Duerlinger writes:

The aim of the reasoning which establishes the ultimate reality of the self [as the emptiness or absence of independent existence] is to destroy, in conjunction with a highly developed power of concentration, our innate *belief* in the independent existence of the person, who is a conventional reality, rather than our belief in the conventional existence of this reality. . . . The *appearance* of the conventionally existent self as independently existent is not destroyed by this means, for whenever we perceive the mind-body aggregates, the idea of a self or person arises, and when it arises it must appear to us to exist by itself. . . . The conventionally real self that has directly perceived its own ultimate reality [its emptiness] will thus continue to *appear* to itself as independently existent when it is not perceiving its own ultimate reality [its emptiness], but it will no longer *assent* to this appearance. [My emphases].<sup>24</sup>

The point I took from this interpretation was that it is important to distinguish between the mistaken, instinctual *belief* that the conventional self or person is independently real and the *appearance* or *phenomenal manifestation* of the conventional self as such. The reason it is important to make this distinction is that it enables us to appreciate that the appearance of the conventional self doesn't need to be destroyed by the liberative insight that it is an appearance, or that the ability to withhold assenting to the appearance as produced by or grounded on an independently real self doesn't need to destroy the mere appearance. And the reason it is important to appreciate this point is that if we think that the liberative insight destroys not just the instinctual belief in an independently real self but also the phenomenal manifesta-

tion of the conventional self, then it is hard to see how we can avoid the extreme of nihilism.

Now, according to Dunne, this interpretation I've just given is actually Tsong Khapa's view, not Candrakīrti's. Dunne has reminded me in conversation that in the *Prasannapadā* Candrakīrti maintains that there are three levels of engagement with the conventional. Ordinary persons engage with the conventional as if it were real. For them, it is "conventional reality." Advanced beings, who have had directed and repeated experiences of the ultimate (the emptiness of substantiality and independent existence), experience the conventional as dream-like; for them, there is only the "merely conventional." But to Buddhas, the conventional doesn't appear at all. Dunne says that Tsong Khapa vehemently denies this claim and insists that the conventional does still appear to the awakened mind. This view is what Dunne describes in his commentary as Tsong Khapa's realism. Hence, Dunne says that I've been swayed by a Tsong Khapa-influenced account, one in which the conventional must be preserved at all costs. Dunne asks, what happens if we step back from that commitment? By this question I take him to be pointing toward the different, nondual approach of the later Yogācāra-Madhyamaka and Mahāmudrā thinkers in Tibet, in which even conventional agency and subjectivity are supposed to be abandoned. So what happens if we step back from a Tsong Khapa-type commitment to the conventional and embrace this nondual view instead?

My answer to this question is that I find it very hard to see how a view that upholds the normative or soteriological value of the disappearance of the conventional—not as mistakenly taken to be ultimately real but simply as conventional—can avoid being a form of nihilism or some kind of radical antinomian mysticism that winds up being nihilism because it denies the everyday world. Moreover, such a position seems incoherent, because in order to say anything at all one has to presuppose the everyday world. I would need to know a lot more about what it means to abandon agency even as a conventional and constructed phenomenon, and why we should think that such a move is desirable, especially in our contemporary context where notions of the agency and rights of persons play such a huge and important constitutive role in our moral and legal practices.

Let me turn now to Garfield's criticisms of my enactive view of the self as a process. In saying why he is "so suspicious" of my view, Garfield misdescribes it. He says that my model is entirely first-personal and individualistic. But crucial to my account of the self as a process is that the self-specifying processes are social. Thus, on pages 344–347, I have a discussion of what I call "social self-making," which includes a social and developmental psychological account of how we come to have a self-concept and an intersubjective sense of self as a result of social processes of joint attention. This discussion occurs before my remarks on memory and prospection, which Garfield quotes, and I make clear there that these cognitive capacities require the social and developmental processes of self-making. Furthermore, I also argue that any system that is "self-designating"—that can designate itself as a self, that can attend to its changing experiential states and conceive of itself as the subject of these states—is able to do so because it possesses a self-concept that is socially and

developmentally constructed. In Madhyamaka terms, my point is that the “nominal self” is constituted through social cognition and language, which means, as Garfield puts it, that “we are constituted not in isolation, but in ensemble.” Garfield, however, makes this statement as if it were a criticism of my view, when it is central to my view. And then he goes too far when he says that “they [the public roles created in my interactions with others], not my own psychological processes, constitute my shifting identities.” The latter negation of the psychological processes as constitutive is a non-sequitur, for both the social roles and the psychological processes are mutually constitutive; you can’t have one without the other. This point is central to my account.

Garfield also misdescribes my view when he presents me as holding that the pronoun “I” should be understood as referring to something real, namely the self as a process. Here he neglects the part of my view that comes from Ganeri, namely that the pronoun “I” doesn’t get its meaning in an ordinary referential way, by functioning to denote an object, but rather that it functions in a performative way, an insight that Ganeri attributes to Candrakīrti.<sup>25</sup> In Ganeri’s words: “When I say, ‘I am in pain,’ I do not *assert* ownership of a particular painful experience; rather, I *lay claim* to the experience within a stream. This is a performativist account of the language of self, in which ‘I’ statements are performative utterances, and not assertions, and the function of the term ‘I’ is not to refer.”<sup>26</sup> This is what Ganeri means when he talks about “I making” (*ahaṃkāra*) or “I-ing,” and that I explicate in cognitive science terms using the idea of self-specifying processes.

Now, it’s precisely at this point that Ganeri and I have to confront Dunne’s criticism that Candrakīrti states in the *Prasannapadā* that the end point of the Buddhist soteriological project is the cessation of all I-making. Let me quote Nāgārjuna’s verse from the *Ratnāvalī* that Dunne quotes and that Candrakīrti cites approvingly:

The aggregates arise from ‘I-making (*ahaṃkāra*); ‘I-making is ultimately unreal. How can anything whose seed is unreal be ultimately produced? Seeing that the aggregates are thus unreal, one forsakes ‘I-making. And since it has been forsaken, the aggregates do not arise again. (*Ratnāvalī* 1.29–30)

My question to Dunne is that if the aggregates do not arise again, then isn’t what is being referred to here “nirvāṇa without remainder,” that is, the cessation of embodied existence entirely with the attainment of liberation? And if that is the case, then what is the relevance of this statement to embodied existence, in which by definition the aggregates do arise, and hence the embodied conventional self is present?

One last comment about the self, before I turn to the issues about consciousness. Garfield says that although the apparent unity of one’s experience is a construction, that unity is only apparent, not real, and so it is an illusion. What is real is disunified and fragmented, with no center, no unity, no persistence. Here I think Garfield falls prey to the same kind of mistake that other no-self theorists such as Thomas Metzinger and Miri Albahari make, which is to suppose that if unity and persistence were to be real, they would have to be based on the unity and persistence of an inherently existent thing.<sup>27</sup> The whole point of my discussion of self-specifying pro-

cesses is to show how there can be functional unity and functional persistence in the absence of the kind of unity that would come from an inherently existent thing.

Let me put the point in Buddhist philosophical terms. What is it that makes certain mind-body aggregates belong together so that they constitute a distinct stream? According to an important paper by Amber Carpenter, this question is the one that we should understand the Pudgalavādins as having been preoccupied with.<sup>28</sup> As she argues, it won't work to say that the aggregates just exist in close spatiotemporal proximity. Rather, certain groups of aggregates—the ones we call “persons” as well as the ones we call “living beings”—are organized so that they have a functional unity with emergent characteristics. That functional unity is shifting and unstable in some ways, but it is also robust and stable in other ways, and it has causal effects. Moreover, we need to have this functional unity in view in order even to be able to individuate the aggregates in the relevant ways for talking about conventional selves or persons. Dan Arnold reads Nāgārjuna as making a similar point:

[T]he right conclusion is not that the self does not exist at all. . . . [.] rather, as it's only with reference to the perspectives that are 'selves' that we could individuate anything as the *parts* thereof, reference to selves is unavoidable if we would make sense *even of these other things*—even if we would make sense, that is, of Abhidharma's finally impersonal terms of analysis [namely the aggregates].<sup>29</sup>

In short, what Garfield seems to miss is precisely the functional unity that underwrites the apparent phenomenal unity. Moreover, contrary to Garfield, the message from cognitive science is precisely that certain systems, by virtue of being self-specifying in the ways I detail in my book, have a kind of functional unity, coherence, and persistence that makes them precisely not centerless and disunified in the way Garfield seems to suppose. If saying this makes me a Pudgalavādin, then so be it.

### *Consciousness*

Garfield thinks that I treat consciousness as a thing. In his view, there is no such thing as “consciousness”; there are only the many ways of being conscious, and they are all relational. By “relational” I take him to mean that to be conscious is always to be conscious of something, which, in the Buddhist philosophical context, is usually analyzed as a relation between a sensory or mental faculty and its object, together with the conditions needed for that awareness or cognition to occur.

I agree that the word “consciousness” is best understood as shorthand for the many ways of being conscious and that in nominalizing all of these ways of being conscious we should not be misled into thinking of “consciousness” as a thing. Nevertheless, it simply does not follow that there are no meaningful philosophical and scientific questions to ask about whether we are or can be conscious in deep sleep, or whether being perceptually conscious is continuous or discrete. These are live questions in cognitive science—and, I might add, in clinical neuroscience for coma, vegetative states, and anesthesia. Garfield does not engage with any of the evidence and arguments I present in my discussion of these issues, so I see no reason to accept

his dismissive attitude toward them. Moreover, I fail to see how my concern with these issues reifies consciousness, especially since I'm careful to say that cognitive science investigations of these issues about consciousness are always going to depend on the context of what we count as our criteria for being conscious, which itself is a complicated question with no one answer.

Garfield also accuses me of mystery mongering when I assert the Kantian and phenomenological point that consciousness has a transcendental status, that is, a certain kind of epistemological primacy. On the one hand he agrees with my point that, transcendentially considered, consciousness is not an object, but on the other hand he thinks this point is either trivial or implies some kind of mysterianism. Here I think he misses the point. I explicitly reject mysterianism or the idea that consciousness must somehow escape our understanding as a natural phenomenon. Rather, my point is that a proper understanding of the transcendental status of consciousness calls into question neurophysicalism. Recall, again, Hempel's dilemma. If we define physicalism in relation to contemporary physics, as neurophysicalism does, then we must confront the fact that the conception of the physical we're given is one that by design excludes experience, despite that conception being transcendentially beholden to experience. For this reason, among others, physicalism is incapable of bridging the explanatory gap—and there most definitely is an *explanatory* gap, even if we suppose that this gap isn't a metaphysical one in nature. When Garfield says that "sufficiently complex biological organisms like us perceive, think, interact, care . . . and that all of that can be explained," he is simply ignoring the explanatory gap or pretending it's not there. The explanatory gap is a deep philosophical and scientific problem, for which we presently have no solution. In my view, no deep solution will be forthcoming without a revolution in our understanding of what it means for something to be physical or what it means for something to be natural.

Dunne, by contrast, clearly appreciates this point, but he wants to see more about my envisioned non-physicalist, nondual alternative. He observes that my discussion of biological self-specifying processes, including the idea that creature consciousness is crucially dependent on certain kinds of bioelectrical phenomena in living cells and nervous systems, leaves untouched this deeper problem. Here I can only say that I have not yet been able to develop further this idea of a kind of neutral nondualism (for lack of a better term) and that it remains a task for future work.

Garfield takes me to task for my commitment to the thesis that all awareness involves awareness of itself, as in the Buddhist idea of reflexive awareness (*svasaṃvedana/svasaṃvitti*), the Vedānta idea of self-luminosity (*svataḥ prakāśa*), and the Western phenomenological idea of pre-reflective or non-thetic self-awareness. Since I have written a lot about this topic elsewhere, and the idea doesn't play a very large role in my book, I will not add much here. I will say, however, that I have argued in other writings that Dignāga's memory argument for reflexive awareness is compelling on conceptual and phenomenological grounds; it is well supported by work in the cognitive science of memory, especially from a grounded cognition perspective; and that Śāntideva's, Candrakīrti's, and Tsong Khapa's criticisms of the argument are ineffective, because they either imply a faulty causal account of

memory that cannot explain the phenomenal content of memory, or they slide into treating reflexivity as if it were the same as higher-order reflection.<sup>30</sup> Garfield makes the same slip when he says that thinking that consciousness is characterized by reflexivity comes from taking the reflective mode of being as the normal one. This remark simply conflates reflexivity with reflection. Let me also note that neither in his commentary on my book nor in his recent book *Engaging Buddhism*<sup>31</sup> does Garfield respond to my argument that Śāntideva's, Candrakīrti's, and Tsong Khapa's criticisms of the memory argument are ineffective because their causal account of memory is defective.<sup>32</sup> Paul Bernier also shows these Madhyamaka arguments against reflexive awareness to be ineffective in his recent and thoroughgoing analytical reconstruction and defense of Dignāga's memory argument.<sup>33</sup> Finally, I would like to call attention to a recent paper by Galen Strawson, in which he discusses this issue from a cross-cultural perspective and makes the interesting argument that reflexive awareness can be irreducibly and internally relational even while being an entirely pre-reflective phenomenon.<sup>34</sup>

Let me end my Response with a few thoughts in regard to Dunne's critical points about the method I use in my book, especially when I discuss the Abhidharma concept of "mind moments" and the Buddhist framework of the five aggregates. In short, I completely agree that it is misguided and unproductive to treat the Abhidharma as a source for empirical estimates as to the length of the temporal duration of a mind moment. Part of my discussion of this topic was autobiographical—describing how I participated in an early EEG experiment designed by Francisco Varela, who was inspired by the Abhidharma idea of mind moments to see whether he could experimentally demonstrate that perception is discrete, not continuous, and if it is discrete, exactly what the temporal interval of that discreteness is.<sup>35</sup> This issue about whether the stream of perceptual consciousness is discrete, episodic, or continuous remains a live one in cognitive neuroscience, and Varela's experiment is now regarded as a classic effort.<sup>36</sup> The point of my discussion was mainly to say that whereas William James took the stream of consciousness to be largely continuous, a different and earlier Abhidharma conception of the stream took it to be discrete, and that this is an issue where cognitive science has something important to offer to Buddhist theorizing.

Regarding the five aggregates, I also agree that Ganeri's rendering of them and my use of that rendering are idiosyncratic and would be unrecognizable if translated literally back into classical Buddhist thought. What I take myself to be doing in this case is precisely trying to create a new, hybrid discourse—a creole, to use Larry Barsalou's metaphor. Finally, with regard to this effort, I take Dunne's point that we shouldn't rely unduly on the Abhidharma or early Yogācāra, but should also work from later, more epistemologically developed Yogācāra and Mahāmudrā traditions. Here I would only point out that these materials—for example Dharmakīrti's Yogācāra writings—are not widely available to cognitive scientists and philosophers who work outside the specialized domain of Buddhist philology. So I encourage Dunne and other Buddhist scholars to work to make them available in a format conducive to cross-cultural philosophy and cognitive science.

In conclusion, let me call attention to Garfield's remark that identities are "determined not only by those who wear the masks, but those who assign them identities and meaning." The identity Garfield assigns me is Pudgalavādin, whereas Dunne suggests that really, beneath the mask, I'm a Kashmiri Śaiva. Those seem like pretty different identities, but it strikes me that it's probably a lot more fun to be a Kashmiri Śaiva than a Pudgalavādin, so maybe that's where my cross-cultural philosophical wanderings should take me next.

## Notes

- 1 – Evan Thompson, "Planetary Thinking / Planetary Building: An Essay on Martin Heidegger and Nishitani Keji," *Philosophy East and West* 36 (1986): 235–252.
- 2 – Evan Thompson, *Mind in Life: Biology, Phenomenology, and the Sciences of Mind* (Cambridge, MA: Harvard University Press, 2007), chap. 8, and Evan Thompson, "Look Again: Phenomenology and Mental Imagery," *Phenomenology and the Cognitive Sciences* 6 (2007): 137–170.
- 3 – Tore A. Nielsen, "Describing and Modeling Hypnagogic Imagery Using a Systematic Self-Observation Procedure," *Dreaming* 5 (1995): 75–94.
- 4 – Jorge Luis Borges, "Nightmares," in *Everything and Nothing* (New York: New Directions, 1989), pp. 79–81.
- 5 – Jennifer Windt, "Reporting Dream Experience: Why (not) to Be Skeptical about Dream Reports," *Frontiers in Human Neuroscience* 7:708; doi:10.3389/fnhum.2013.00708. See also Jennifer Windt, *Dreaming: A Conceptual Framework for Philosophy of Mind and Empirical Research* (Cambridge, MA: MIT Press, 2015).
- 6 – This claim is controversial in cognitive science. Some theorists argue that the phenomenal content or character of conscious experience is exhausted by that of selective attention. See Jesse Prinz, "Is Attention Necessary and Sufficient for Consciousness?" in Christopher Mole, Declan Smithies, and Wayne Wu, eds., *Attention: Philosophical and Psychological Essays* (New York: Oxford University Press, 2011), pp. 174–203. Other theorists argue that conscious experience "overflows" selective attention, including having a phenomenal field structure, in which selective attention determines the foreground and pre-attentive awareness determines the background. For the "overflow" thesis, see Ned Block, "Perceptual Consciousness Overflows Cognitive Access," *Trends in Cognitive Sciences* 15 (2011): 567–575. For the foreground-background structure, see P. Sven Arvidson, *The Sphere of Attention: Context and Margin* (Dordrecht: Springer, 2006).
- 7 – Jennifer Windt, "The Immersive Spatiotemporal Hallucination Model of Dreaming," *Phenomenology and the Cognitive Sciences* 9 (2010): 295–316.

- 8 – Ibid., p. 296 n. 1.
- 9 – Ibid., p. 299.
- 10 – See Sina Fazelpour and Evan Thompson, “The Kantian Brain: Brain Dynamics from a Neurophenomenological Perspective,” *Current Opinion in Neurobiology* 31 (2015): 223–229.
- 11 – See Carl G. Hempel, “Reduction: Ontological and Linguistic Facets, in *Philosophy, Science, and Method: Essays in Honor of Ernest Nagel*, ed. Sydney Morgenbesser, Patrice Suppes, and Morton White (New York: St. Martin’s Press, 1969), pp. 179–199, and Tim Crane and D. H. Mellor, “There is No Question of Physicalism,” *Mind* 99 (1990): 185–206.
- 12 – See Galen Strawson, *Consciousness and Its Place in Nature: Does Physicalism Entail Panpsychism?* ed. Anthony Freeman (Exeter, UK: Imprint Academic, 2006). For neutral monism, see Erik C. Banks, *The Realistic Empiricism of Mach, James, and Russell: Neutral Monism Reconceived* (New York: Cambridge University Press, 2014).
- 13 – Thompson, *Mind in Life*.
- 14 – See Thompson, “The Kantian Brain.”
- 15 – See Antoine Lutz, Amishi Jha, John D. Dunne, and Clifford D. Saron, “Investigating the Phenomenological Matrix of Mindfulness-Related Practices,” *American Psychologist* 70, no. 7 (October 2015): 632–658. For recent evidence that mindfulness practices can reduce implicit bias, see Adam Leuke and Bryan Gibson, “Mindfulness Meditation Reduces Implicit Age and Racial Bias: The Role of Reduced Automaticity of Responding,” *Social Psychological and Personality Science* 6 (2015): 284–291. But recent evidence also indicates that mindfulness meditation can increase susceptibility to false memory; see Brent M. Wilson, Laura Mickes, Stephanie Stolarz-Fantino, Matthew Ervard, and Edmund Fantino, “Increased False-Memory Susceptibility After Mindfulness Meditation,” *Psychological Science* 26 (2015): 1567–1573.
- 16 – Jonardon Ganeri, “Well-Ordered Science and Indian Epistemic Cultures: Toward a Polycentered History of Science,” *Isis* 104 (2013): 348–359.
- 17 – Ibid.
- 18 – See Thomas Metzinger, *Being No One: The Self-Model Theory of Subjectivity* (Cambridge, MA: MIT Press, 2003).
- 19 – James Duerlinger, “Candrakīrti’s Denial of the Self,” *Philosophy East and West* 34 (1984): 261–272, and *The Refutation of the Self in Indian Buddhism: Candrakīrti on the Selflessness of Persons* (London: Routledge, 2012).
- 20 – See Jonardon Ganeri, *The Concealed Art of the Soul: Theories of Self and Practices of Truth in Indian Ethics and Epistemology* (Oxford: Oxford University Press, 2007).

- 21 – “Candrakīrti’s Denial of the Self,” p. 262.
- 22 – Padmakara Translation Group, *Introduction to the Middle Way: Chandrakīrti’s Madhyamakavatara with Commentary by Jamgön Mipham* (Boston and London: Shambhala, 2004), p. 91.
- 23 – Ibid.
- 24 – Duerlinger, “Candrakīrti’s Denial of the Self,” p. 263.
- 25 – Ganeri, *The Concealed Art of the Soul*.
- 26 – Ibid., p. 202.
- 27 – Metzinger, *Being No One*, and Miri Albahari, *Analytical Buddhism: The Two-Tiered Illusion of Self* (New York: Palgrave Macmillan, 2007).
- 28 – Amber Carpenter, “Persons Keeping Their *Karma* Together: The Reasons for the *Pudgalavāda* in Early Buddhism,” in Koji Tanaka, Yasuo Deguchi, Jay Garfield, and Graham Priest, eds., *The Moon Points Back* (New York: Oxford University Press, 2015), pp. 1–44.
- 29 – Dan Arnold, *Buddhas, Brains, and Believing: The Problem of Intentionality in Classical Buddhist and Cognitive-Scientific Philosophy of Mind* (New York: Columbia University Press, 2012), p. 227.
- 30 – Evan Thompson, “Self-No-Self? Memory and Reflexive Awareness,” in Mark Siderits, Evan Thompson, and Dan Zahavi, *Self, No Self? Perspectives from Analytical, Phenomenological, and Indian Traditions* (Oxford and New York: Oxford University Press, 2011), pp. 157–175.
- 31 – Jay Garfield, *Engaging Buddhism: Why It Matters to Philosophy* (New York: Oxford University Press, 2015).
- 32 – Ibid.
- 33 – Paul Bernier, “Dignāga on Reflexive Awareness,” *Philosophy East and West* 65 (2015): 125–156.
- 34 – Galen Strawson, “Self-Intimation,” *Phenomenology and the Cognitive Sciences* 14 (2015): 1–31.
- 35 – Francisco J. Varela, Alfredo Toro, E. Roy John, and Eric L. Schwartz, “Perceptual Framing and Cortical Alpha Rhythm,” *Neuropsychologia* 19 (1981): 675–686.
- 36 – See Evan Thompson, “Is Consciousness a Stream?” *The Brains Blog*, <http://philosophyofbrains.com/2015/07/29/is-consciousness-a-stream.aspx>, and “The Stream of Consciousness: An Update,” *Psychology Today*, Blog, <https://www.psychologytoday.com/blog/waking-dreaming-being/201509/is-consciousness-stream-update>.