A GRAY MATTER
Another look at Buddhism and neuroscience
BY BERNARD FAURE
Participants in the dialogue between science and Buddhism have long modeled their discussion primarily on the idea of comparability. And yet, there are many who argue that the most significant comparisons are those that reveal common ground. This is by no means the only model for comparative discussion, and I would argue that in the case of Buddhism and science it is deeply flawed. Instead, another model—one based on mutual challenge, in which the two sides are able to shed light on each other precisely because of their differences—offers what I see as a more potentially fruitful alternative.

In his 2008 book Buddhism and Science: A Guide for the Perplexed, my colleague Donald Lopez traces the dialogue between these two realms of discourse since the question of their compatibil- ity was first raised in the late 19th century. While various refrains in the dialogue have changed with the years, certain features have remained fundamentally the same. Lopez points out, for example, that Buddhism, in order to demonstrate its compatibility with science, was “modernized” by its exponents, without a preliminary self-critical examination of the assumptions each side brings with it, it is not even clear what such a dialogue even looks like.

Certainly one of these problematic premises is the claim that Buddhism, like science and unlike religion, is “experimental.” In his introduction to Buddhism and Science: Breaking New Ground, B. Alan Wallace, one of the foremost advocates of conver- 
gence, writes:

Buddhism, like science, presents itself as a body of systematic knowledge about the natural world, and it posits a wide array of testable hypotheses and theories concerning the nature of the mind and its relation to the physical environment. These theories have allegedly been tested and experientially confirmed numerous times over the past twenty-five hun- dred years, by means of duplicable meditative techniques. In this sense, too, Buddhism may be better characterized as a form of empiricism rather than transcendentalism. This is, to say the least, a highly selective definition of Bud- dhism, and since it apparently ignores the central place of faith, ritual, religious narratives, and other elements that might not comport with a scientiﬁc view of Buddhism, it is, from a histori- cal point of view, entirely inadequate. One might question as well how this characterization squares with Buddhism sociologi- cally. Consider, for example, that His Holiness the Dalai Lama, who is so central to the Buddhist and neuroscience dialogue, is himself the object of ardent devotion and faith for millions and, significantly alter one’s state of mental functioning. Some pretty mundane things can even affect the brain. We know, for instance, that these gamma oscillations are correlated with self-reports of clarity of meditation. Unfortu- nately, the lack of a control population makes it difficult to inter- testable hypotheses and theories concerning the nature of the mind and its relation to the physical environment. These theories have allegedly been tested and experientially confirmed numerous times over the past twenty-five hundred years, by means of duplicable meditative techniques. In this sense, too, Buddhism may be better characterized as a form of empiricism rather than transcendentalism. This is, to say the least, a highly selective definition of Buddhism, and since it apparently ignores the central place of faith, ritual, religious narratives, and other elements that might not comport with a scientiﬁc view of Buddhism, it is, from a historical point of view, entirely inadequate. One might question as well how this characterization squares with Buddhism sociologically. Consider, for example, that His Holiness the Dalai Lama, who is so central to the Buddhist and neuroscience dialogue, is himself the object of ardent devotion and faith for millions and, significantly alter one’s state of mental functioning. Some pretty mundane things can even affect the brain. We know, for instance, that these gamma oscillations are correlated with self-reports of clarity of meditation. Unfortunately, the lack of a control population makes it difficult to inter-
WINTER 2012

Thomas Kuhn famously made the case that what scientists observe and how they observe it is already tied up with the paradigmatic assumptions that frame their whole endeavor. The neuroscientific paradigm is not the same as Buddhism’s, and, in spite of all declarations to the contrary, is in fact at odds with it. Neuroscientists cannot have access to what the Buddhist practitioner is actually experiencing, the qualitative of meditation, and they cannot help interpreting the practitioner’s account in their own terms, according to scientific presuppositions that leave no room for an authentic Buddhist experience. Their observations are far from neutral, inasmuch as they confirm a Western way of thinking that denies the reality of the Buddhist worldview.

At a more technical level, measurements of a meditation practitioner’s brain lead to unresolved questions about their meaning. What exactly do an increase of prefrontal activity or cortex thickness, an increase of gamma rays, and the like mean? Changes in brain-wave patterns and such during practice tell us nothing about the experience itself, let alone about its value for the practitioner.

Even as data, the data are often problematic. EEGs and fMRIs may provide a wealth of data, but these are usually inconclusive. Neuroplasticity is not—or should not be—an end in itself, and it remains meaningful unless a clear goal is defined. All measurements are talk about the potential effects on the human brain.

In his seminal work on the history and philosophy of science, The Structure of Scientific Revolutions, Thomas Kuhn famously made the case that what scientists observe and how they observe it is already tied up with the paradigmatic assumptions that frame their whole endeavor. The neuroscientific paradigm is not the same as Buddhism’s, and, in spite of all declarations to the contrary, is in fact at odds with it. Neuroscientists cannot have access to what the Buddhist practitioner is actually experiencing, the qualitative of meditation, and they cannot help interpreting the practitioner’s account in their own terms, according to scientific presuppositions that leave no room for an authentic Buddhist experience. Their observations are far from neutral, inasmuch as they confirm a Western way of thinking that denies the reality of the Buddhist worldview.

At a more technical level, measurements of a meditation practitioner’s brain lead to unresolved questions about their meaning. What exactly do an increase of prefrontal activity or cortex thickness, an increase of gamma rays, and the like mean? Changes in brain-wave patterns and such during practice tell us nothing about the experience itself, let alone about its value for the practitioner.

Even as data, the data are often problematic. EEGs and fMRIs may provide a wealth of data, but these are usually inconclusive. Neuroplasticity is not—or should not be—an end in itself, and it remains meaningful unless a clear goal is defined. All measurements are talk about the potential effects on the human brain.

In his seminal work on the history and philosophy of science, The Structure of Scientific Revolutions, Thomas Kuhn famously made the case that what scientists observe and how they observe it is already tied up with the paradigmatic assumptions that frame their whole endeavor. The neuroscientific paradigm is not the same as Buddhism’s, and, in spite of all declarations to the contrary, is in fact at odds with it. Neuroscientists cannot have access to what the Buddhist practitioner is actually experiencing, the qualitative of meditation, and they cannot help interpreting the practitioner’s account in their own terms, according to scientific presuppositions that leave no room for an authentic Buddhist experience. Their observations are far from neutral, inasmuch as they confirm a Western way of thinking that denies the reality of the Buddhist worldview.

At a more technical level, measurements of a meditation practitioner’s brain lead to unresolved questions about their meaning. What exactly do an increase of prefrontal activity or cortex thickness, an increase of gamma rays, and the like mean? Changes in brain-wave patterns and such during practice tell us nothing about the experience itself, let alone about its value for the practitioner.

Even as data, the data are often problematic. EEGs and fMRIs may provide a wealth of data, but these are usually inconclusive. Neuroplasticity is not—or should not be—an end in itself, and it remains meaningful unless a clear goal is defined. All measurements are talk about the potential effects on the human brain.
brains” are significantly different, Buddhist monks represent just another type of population for neuroscience. One may object that this instrumental approach is due to the fact that these experiments and dialogues are still at the incipient stage. But precisely since so much depends on the preliminary stages, it would have been particularly important to set the record straight. And this is not, in my opinion, what happened. On the contrary, the desire to obtain quick results preempted robust critical questions.

Most studies on the topic provide an optimistic and charitable interpretation of the dialogue. A more realistic approach would look at its ideological and economic motivations, noting, for instance, that the mutual validation of Buddhism and neuroscience has generated a lot of funding on both sides. Other vested interests include those of the pharmaceutical industry, which is always quick to inflate claims for marketing purposes and to downplay the obvious limitations of neuroscientific experiments. All these various agendas have given birth to a new field of discourse, which has taken on a life of its own. This discourse has been from the start inscribed in the framework of neuro-enhancement and consumerism, a framework that to Buddhism is problematic, to say the least.

By rushing to conclusions, enthusiastic advocates of the dialogue between Buddhism and neuroscience have raised expectations that they cannot meet. When all is said and done, does Buddhist doctrine make a difference in the dialogue between Buddhism and neuroscience? Apparently not. Does this mean that Buddhist claims are false? I believe it simply shows that they belong to a framework of understanding the world that is different from scientific discourse and therefore cannot be reduced to it. As the Dalai Lama himself pointed out, enlightened states of mind may not have a neural signature or neural correlates, and it would therefore be a waste of time to search for the “Buddha-spot” in the brain. This view flies in the face of basic neuroscientific beliefs about the physical closure of the world, according to which there can be no mental event without a neural correlate.

Whether a meaningful dialogue between neuroscience and Buddhism is possible remains to be seen. For it to happen, neuroscientists must make the effort to understand Buddhism on its own terms and accept the possibility that its description of the world might have some validity. The readiness of Buddhists simply to abandon their world view and its claims in order to pass the tests of neuroscience may have provided some short-term benefits, but in the long run it will probably condemn this dialogue to irrelevance. For a real dialogue to take place, both sides must accept the otherness of those with whom they seek to engage. Convergence may never be reached, and that is likely for the best, because it is difference, and the challenges it presents, that is the richer source of understanding.