

# *Imag(in)ing the Buddhist Brain*

with Lorenza S. Colzato and Jonathan A. Silk, "Editorial Introduction"; Bernhard Hommel and Lorenza S. Colzato, "Religion as a Control Guide"; Florin Deleanu, "Agnostic Meditations on Buddhist Meditation"; Antonino Raffone et al., "Mindfulness and the Cognitive Neuroscience of Attention and Awareness"

## AGNOSTIC MEDITATIONS ON BUDDHIST MEDITATION

by Florin Deleanu

*Abstract.* I first attempt a taxonomy of meditation in traditional Indian Buddhism. Based on the main psychological or somatic function at which the meditative effort is directed, the following classes can be distinguished: (1) emotion-centered meditation (coinciding with the traditional *samatha* approach); (2) consciousness-centered meditation (with two subclasses: consciousness reduction/elimination and ideation obliteration); (3) reflection-centered meditation (with two subtypes: morality-directed reflection and reality-directed observation, the latter corresponding to the *vipassanā* method); (4) visualization-centered meditation; and (5) physiology-centered meditation. In the second part of the essay I tackle the problem of the epistemic validity and happiness-engendering value of Buddhist meditation. In my highly conjectural view, the claim that meditation represents an infallible tool for realizing the (Supreme) Truth as well as a universally valid method for attaining the highest forms of happiness is largely based on the *crēdō* effect, that is, a placebo-like process. I do not deny that meditation may have some positive effects on mental and physical health or that its practice may bring changes to the mind. Meditation may be a valuable alternative approach in life and clinical treatment, but it is far from being a must or a panacea.

*Keywords:* Buddhist meditation; consciousness-centered meditation; *crēdō* effect; Early Buddhism; emotion-centered meditation; epistemology of meditation; insight (*vipassanā*); Mahāyāna; meditation and happiness; physiology-centered meditation; placebo effect; reflection-centered meditation; subject/object duality; Tantric Buddhism; Theravāda; tranquility (*samatha*); visualization-centered meditation

---

Florin Deleanu is Professor of Buddhist Studies at the International College for Post-graduate Buddhist Studies, 2-8-9 Kasuga, Bunkyo-ku, Tokyo, 112-0003, Japan; e-mail florindeleanu@yahoo.co.jp.

[*Zygon*, vol. 45, no. 3 (September 2010)]

© 2010 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

[www.zygonjournal.org](http://www.zygonjournal.org)

These lines do not stem from reckless iconoclasm. Neither do they come from prejudice or ignorance, though by traditional Buddhist standards I am a hopelessly deluded person. The main motive that has set my mind and quill in motion has been curiosity, a proclivity that has led me, rightly or wrongly, to some questions as well as highly conjectural answers. Simply stated, these questions concern the epistemic and happiness-engendering value of meditation.<sup>1</sup> Is meditation a method leading to valid knowledge of the (Supreme) Truth, knowledge superior to that attained by ordinary means? Is meditation a path leading to the highest, or substantially higher, forms of happiness, a path inaccessible via other approaches? Is meditation a must for any human being wishing to improve the quality of his or her life? Not surprisingly, the answers given by Buddhism are unequivocally affirmative. My approach starts from different premises and leads me to doubt the traditional Buddhist argumentation.

Before examining these questions, a brief introduction to the taxonomy of meditation in Indian Buddhism reviews some of the basic concepts. Probably no other tradition in the world has dedicated so much time and energy to the exposition of meditative theory and practice as Buddhism has. Attempting to compress this vast corpus of teachings and praxis into a few pages is doomed to oversimplification. Furthermore, taxonomies are by definition static models. This means that the millennia-long process of dynamic development cannot be adequately reflected. I therefore attempt this classification with reluctance because Buddhist meditation, like any other human-related event, has formed and evolved within communities of living men and women. An accurate understanding of meditation can come only from a careful inquiry into its history, and that I do not undertake here. Nonetheless, read with these caveats, the schematic taxonomy presented below serves the purpose, I hope, of offering a bird's-eye view of the basic "hows" of meditation in traditional Indian Buddhism. I want to stress that the classification is primarily relevant for meditation as described in traditional Indian sources. Many modern techniques have inherited much of this repertoire, but in quite a few cases they also have brought more or less important changes and adaptations.

#### BUDDHIST MEDITATION: BASIC HOWS

For most schools of Indian Buddhism, meditation constitutes the pivotal link in the path toward Awakening to the Supreme Truth and Liberation from the suffering of the cycle of rebirths. There is no shortage of traditional taxonomies and terminology related to meditation. I do not deny their importance and relevance, but I have chosen to develop my own taxonomy and nomenclature. This succeeds, I hope, in arranging the principal types of meditative praxis according to more uniform criteria.

The basic criterion of classification has been the main psychic function involved in or subject to the meditative technique. However, the selection

of the main function is far from easy. Meditation is an extremely complex process, and more than one function is responsible for its success. A certain dose of abstraction and schematization therefore is unavoidable.

Further complicating the picture is that basically none of the following meditative classes and subclasses is practiced separately. Buddhist contemplatives usually work with more than one type of praxis and in accordance with a certain path of spiritual cultivation. Each major tradition has its own mapping of this path containing detailed prescriptions of meditative combinations and strategies for every stage on the ladder of progression. Moreover, certain contemplative techniques and approaches actually mix what I consider to be different classes. This typological blend may occur within what traditionally is regarded as a distinct method and even during a single mental act. The classification below does not take into account the combinatorial potentiality. This admittedly constitutes a limitation that could be addressed only by making detailed reference to the traditional descriptions and classifications, and I do not attempt that in this article.

Here I mention only one typical Buddhist pattern—the meditative pair known as tranquility (*samatha*) and insight (*vipasyanā*). The former refers mainly to a process aiming at a gradual reduction of emotion-stirring functions and eventually at reaching perfect equanimity. In some varieties, *samatha* is described as continuing with further stages that lead to increasingly reduced levels of consciousness until a complete cessation of mental activity occurs. I think that the latter *samatha* model involves two distinct strategies that need to be classified as separate categories, as I do below.<sup>2</sup>

In contrast, *vipasyanā* does not require deep concentration levels or altered states of consciousness. It is basically a process of awareness in which the reflective (discursive) flow of attention is not suspended. This leads to a gradual realization of the fundamental characteristics of the reality.

It is worth remembering that all types of meditative techniques imply a minimum degree of continuous concentration. This, together with the basic premise that the effort is directly or indirectly conducive to Awakening, is what actually defines Buddhist meditation in general. The way concentration is employed as well as the function upon which it fixes itself differ from one category to another.

1. EMOTION-CENTERED MEDITATION. Traditionally labeled *tranquility* or *absorption*, this method consists of a series of four stages in which emotionally disturbing factors are gradually eliminated. The goal is a state of complete equanimity and nonattachment.

According to the *Visuddhimagga*, the classical meditation treatise of the Theravāda school, meditative absorption can be best achieved by using a device called *kaṣiṇa* (“totality”). The earth-device (*pathavīkaṣiṇa*), for instance, consists of a flat surface of clay, portable or fixed, often shaped in the form of a disc (Warren [1950] 1989, 100–101). The meditator must

gaze at the device long enough to obtain a stable after-image, which is then further purified until reaching the “counterpart sign” (*paṭibhāganimitta*), a mental image having no color or shape (pp. 101–2).

(In what follows I use masculine forms in describing traditional techniques. This is done chiefly in order to stay close to the original wording of the scriptures. There is no underlying implication, either on my part or that of the traditional sources, that women cannot practice and master meditation.)

The meditator first frees himself from the bond of the sensual pleasures (*kāma*) as well as from five emotional hindrances: lust, malice, torpor and drowsiness, agitation and remorse (*/worry*), and doubt.<sup>3</sup> He is then able to attain the first stage of meditative absorption, which is characterized by *joy and pleasure born of separation from sensual pleasures*. At this stage, the meditator still retains his discursive mentation in the form of rough examination and subtle investigation.

Eventually, however, these conceptualizing modes of attention become an obstacle to tranquility and have to be abandoned in order to reach the second level of absorption, which is described as *joy and pleasure born of [nonverbally sustained] concentration*.

Experiencing any kind of emotional state, even if blissful, however, is fraught with potentially destabilizing factors. Therefore, the contemplative has to discard them. He first rids himself of the feeling of joy, which leaves him only with a sense of bodily well-being. This represents the third absorption.

Yet, being an emotional state, well-being, too, menaces a perfect state of equilibrium. Its abandonment leads to the fourth absorption, which is *neither painful nor pleasant and is characterized by purity of mindfulness on account of equanimity*.<sup>4</sup>

2. CONSCIOUSNESS-CENTERED MEDITATION. This class comprises two (or rather three) distinct strategies. The first aims at a reduction of the consciousness level or a complete elimination of mental activities. The second represents a gradual obliteration of all perceptual and conceptualizing processes while still guarding a minimum, basic form of awareness.

*Consciousness Reduction/Elimination.* This meditative subclass, frequently presented as a sequel to the four absorptions, includes two combinatorial varieties.

(1) The first contains four stages of *immaterial attainments*. Having attained the fourth absorption, the contemplative continues his endeavor by surmounting all ideations of material resistance and variety.<sup>5</sup> He thus reaches *the state or station of the infinity of space*, apparently a sensation of free access to any corner of the Universe. The consciousness contemplating this boundlessness becomes equally infinite. The act of becoming aware of

this attribute gives the name of the second level: *the station of the infinity of consciousness*. A limitless consciousness perceiving the formless and endless space amounts to the absence of any particular object. The practitioner transcends the very ideations of infinite space and consciousness and attains *the station of nothing whatsoever*, a state characterized by awareness without a particular object. The last of the four immaterial attainments brings the fading away of the consciousness. This is *the station of neither ideation nor non-ideation*. Here consciousness is too feeble to be considered as properly operating, and yet it is not exactly absent.

Some of the scriptural sources end here their description of meditative absorptions and attainments. Other texts, however, add another level:

(2) *The cessation of ideation and feeling*, or, simply, *attainment of cessation*. By surmounting the fourth stage of the immaterial attainments, the contemplative enters one of the most enigmatic and controversial meditative states in which all mental processes, including consciousness, come to a complete halt. The only factors distinguishing a contemplative in this state from a dead body is the preservation of the life principle and bodily heat (see Treckner [1988] 1979), I:296; Warren [1950] 1989, 611).

*Ideation Obliteration.* The main difference between the preceding subtype and the oblitative approach is that the latter aims at ridding the mind of all ideations while maintaining a minimum degree of consciousness or nonconceptualizing awareness. *Ideation*, a key Buddhist notion, has a wide semantic sphere including perception of colors, sounds, and so forth as well as recognition of concepts such as friend, foe, and so on.<sup>6</sup> As for the consciousness level, the dichotomy between ipseity, on the one hand, and narrative or autobiographical self, on the other, is quite useful in this context. The former refers to “the minimal subjective sense of ‘I-ness’ in experience” while the latter “encompasses categorical or moral judgments, emotions, anticipations of the future, and recollections of the past” (Lutz, Dunne, and Davidson 2007, 526). Apparently it is ipseity that remains even in the final stages of this meditative experience.

The obliteration of perception and conceptualization is already found in some early meditative approaches. The so-called *abiding in emptiness*, for instance, consists in a gradual elimination of perception of concrete objects such as villages and people.<sup>7</sup> The monk then focuses his attention on the forest not as a particular object but rather as a uniform ideation. The realization that the disturbances associated with concrete ideations have disappeared brings him serenity and conviction. But ideations, even if uniformly perceived, still generate a certain amount of disturbance. To eradicate this, the meditator must attain a concentration without mental images/characteristics. He understands, nonetheless, that this state, exceptional as it may be, is still conditioned and volitionally generated. And, like all such states, it is impermanent and bound to destruction. This

insight actually brings about Liberation from all cankers (*āśava*) binding one to the cycle of rebirths.<sup>8</sup> This is the very moment of Awakening, described with the classical formula: *Destroyed is [re]birth, fulfilled is the pure conduct of spiritual practice, accomplished is what was to be accomplished, no more existence in this world is there for me.*

Obliterative techniques become a dominant meditative approach in Mahāyāna Buddhism, especially the *Prajñāpāramitā* (*Perfection of Wisdom*) scriptures and the idealist school of Yogācāra-Vijñānavāda. A fundamental assumption underlying both currents is that our common perception of the world and its linguistic expression, with their accompanying conceptualizations, ultimately are unreliable and obscure the Supreme Reality. The realization of the latter can come only after a strenuous spiritual process in which the cultivation of three types of contemplation, alongside the newly emphasized practice of universal compassion, plays a crucial role.

How does this meditative triad work? By means of the contemplation of emptiness, the practitioner understands that all phenomena lack a conceptually determinable essence. Through the contemplation of signlessness, he comes to dwell in the absence of phenomenal characteristics by not attending to the proliferation of the ideative variety accompanying the usual cognitive processes. The contemplation of directionlessness/desirelessness leads to the realization that no conditioned phenomenon is worth the effort of observation.<sup>9</sup>

The map of spiritual progression in Yogācāra-Vijñānavāda illustrates the obliterative strategy even better. Let us see how the *Mahāyānasūtrālamkāra* (*The Ornament of Mahāyāna Scriptures*), one of the fundamental texts of this school, describes it (Lévi 1907, 23–24). In the initial stages, the practitioner still employs cogitation accompanied by mental verbalization in his reflection upon the essence of phenomena. He then comes to realize that what we perceive as cognitive objects actually are products of mental verbalization, and their manifestation is nothing but mind (or: mind-only). Having liberated himself from the bond of linguistically dependent cognition, he has access to the Realm of the Supreme Reality through direct perception. This presupposes a dissociation from the ordinary epistemic framework based on the subject/object dichotomy. The next step is the *realization that not even the mind-only exists because without an object [of knowledge] existing, there is no cognizing subject [either]*. Finally, the contemplative attains absolute cognition, which is equated with nonconceptual cognition. This is the moment of Awakening, defined as the *transformation of one's basis of existence*, a fundamental metamorphosis of his entire being and mode of cognition (which, according to the Yogācāra-Vijñānavāda, are basically identical). To put it in modern terms, this path appears to entail a gradual deletion of the autobiographical self and the attainment of an ipseity-only mode of mind.

3. REFLECTION-CENTERED MEDITATION. The reflection-centered approach, probably the most widely practiced Buddhist meditation today, does not aim at altered states of consciousness or elimination of ideation. Both of its subtypes involve discursive mentation. The technical difference between them is more conspicuous in the initial stages. Different also is the soteriological value traditionally associated with them.

The first subtype serves to reinforce basic Buddhist virtues regarded as props on the spiritual path. The second subclass is mainly represented by *vipassanā* meditation, often depicted as a nonjudgmental awareness. It largely operates so in the beginning (though arguably some judgmental check does exist even in these phases). In its later stages, it becomes a sustained reflective process focused on the realization of the reality in accordance with the basic philosophical categories of Buddhism. (In this sense, *vipassanā* is better labelled “funneling awareness” than “open awareness.”) Finally, it generates an (apparently intuitional) insight into the essence of the reality traditionally described as the attainment of the Awakening.

*Morality-directed Reflection.* A typical practice of this class is the recollection of the Buddha in which the meditator reflects upon the exalted qualities of the Buddha with the ultimate aim of making his mind aspire to the spiritual stage attained by the Awakened One (see Warren [1950] 1989, 162–76).

Another representative praxis is the cultivation of friendliness, the purport of which is to emanate lovingkindness toward all living beings. Apart from its intrinsic moral value, this meditation brings benefits such as good sleep, becoming dear to both human and nonhuman beings, easily obtaining concentration, and gaining rebirth in heavenly worlds (unless the practitioner becomes Awakened—something that, nonetheless, is to be gained through other contemplative methods) (Warren [1950] 1989, 244–60).

*Reality-directed Observation.* The term *vipassanā/vipasyanā* is often and aptly translated as “insight.” In modern sources, the approach is also referred to as “awareness meditation” or “mindfulness.” Its cultivation is typically described as conducive to full understanding of the three essential characteristics of all conditioned phenomena: impermanence, suffering, and no(n)-Self. The latter implies that one’s physical and mental constituents do not represent the eternal Self or belong to oneself forever (or: to an eternal Self).

The traditional practice of *vipassanā* apparently coincides with the four applications of mindfulness to four categories of objects: body, feelings, mind, and doctrinal factors. The gist of the method is to observe a given phenomenon or factor as it presents itself to the mind without showing any emotional reaction to it.<sup>10</sup> This is followed by soteriologically oriented reflection conducive to insight into the essence of these phenomena/factors and the Supreme Truth.<sup>11</sup>



Body mindfulness begins with respiration. The aim is not its control but observing it as such: If one breathes in long, he is aware of it, and similarly if he breathes in short, and so forth. Awareness is gradually expanded to the entire body, to all its positions and movements, to the inner organs (seen mainly in their foul nature), to the basic elements that make up the body, and finally to the nine stages of decay that a corpse undergoes. The latter makes the meditator realize that *this body [of mine] also has this nature, it [too] will be like that, it [too] is subject to this [law]*.<sup>12</sup> And the refrain, which follows after this and each of the other applications, tells that the practitioner, whether contemplating arising factors or vanishing factors, *abides not leaning [on anything], not clinging to anything whatsoever in the world*.

In the same manner, the meditator observes his feelings as they occur, whether they are pleasant, painful, or neutral.

He likewise contemplates the mind with its various states—that is, whether it is affected or not by lust, hate, bewilderment, and so forth.

Finally, the practitioner turns his attention to fundamental doctrinal factors, mainly contemplated in relation to bondage and Liberation. They include such categories as the five aggregates, the building blocks of all physical and mental phenomena, chiefly under their aspect of aggregates to which one clings; the five sense organs and the mind as well as their objects, mainly as they relate to the arising and abandonment of the fetters; and the Four Noble Truths, which reveal the essence of suffering, its origin, its cessation, and the path leading to its cessation. The complete penetration and interiorization of these Truths, the cornerstone of the entire Buddhist spirituality, constitute the moment of Awakening and Liberation from suffering.

4. VISUALIZATION-CENTERED MEDITATION. The visualization techniques appear to be an outgrowth of devotional and inspirational exercises such as the recollection of the Buddha. They are mainly, but not exclusively, associated with Mahāyāna Buddhism and reach their apogee in Tantrism. Technically, they evolve into complex forms well beyond reflection on the Buddha as the epitome of virtue and wisdom.

For the present purposes, a sketch of a series of visualizations set forth in Chapter VI of the *Guhyasamājatantra* (*Tantra of the Secret Union*) will suffice (Matsunaga 1978: 17–19, stanzas 8–17). Here the practitioner first contemplates the full moon in the midst of the sky. Then he imagines a mustard seed at the tip of his nose and sees the whole Universe in this seed. He should also visualize the disc of the Sun, a wheel disc, a lotus disc, and so forth, according to specific instructions.

In the case of the Sun, the yogi contemplates its disc, then visualizes an image of the Buddha, and eventually places the mystical syllable *hum* upon it. The contemplation upon the wheel is followed by visualizing the union



with the Buddha's eye as taking place in (or: as if being) a diamond and a lotus. These are key Tantric terms pregnant with rich symbolism. The semantic range of the former stretches from emptiness, seen as the Ultimate Reality, and nondual cognition, that is, the epistemic tool for Its realization, to the male sexual organ. The lotus stands for virtues such as sympathetic joy and impartiality as well as for the female sexual organ. Their conjunction is one of the marks of the Awakening.

Finally, the yogi clearly visualizing an eight-petal lotus the size of a chickpea at the tip of his nose should direct all efforts toward Awakening. Further increasing his endeavor, he contemplates the wheel and so forth until reaching the delightful basis of Awakening.

5. PHYSIOLOGY-CENTERED MEDITATION. Predominantly associated with late Tantric developments such as the sixfold yoga, these techniques aim to control and manipulate the esoteric physiology of the body. Typically, they center upon the winds of vital energy, mainly represented by respiration, that allegedly run through a complex system of channels or nerves and plexuses.

The control of vital energy, combined with a series of visualizations, constitutes the third stage of the sixfold yoga. The following brief account is based upon the same *Guhyasamājatantra* (Chapter XVIII) and the exegetical elucidations found in the *Sekoddesaṭīkā* (Sferra and Merzagora 2006) (*Guhyasamājatantra* 124, stanzas 147–48, commented upon in *Sekoddesaṭīkā* 114–15; see also Gupta 1958, 165–70).

The vital energy is said to have a dual character, that is, (a) the nature of the five elements that make up all phenomena and (b) consisting of the five cognitions, which coincide with the Five Fundamental Buddhas. The current of air entering the left nostril and flowing through the *lalanā*, the main channel on the left side of the body, is identified with the five elements. The wind going in through the right nostril and then through the *rasanā*, the chief nerve on the right side, is considered to stand for the five Buddhas. During exhalation, the yogi must contemplate the energy in the form of a ball at the tip of his nose. The ball represents the fusion of the two winds into the *avadhūti*, the channel running through the middle of the body from navel to forehead. The yogi meditates upon his own mantra in the heart and places it together with the energy in the state of a drop—on the forehead and arresting its flow, the *Sekoddesaṭīkā* adds.<sup>13</sup>

The description includes reference to another important aspect of the Tantric meditation: the repetition of mantras or mystical sounds/formulae.<sup>14</sup> According to the *Pañcakrama*, another major scripture of the school, this should be not mere chanting but rather a technique of controlling the flow of vital energy. Especially, the diamondlike repetition—a muttering of the mantra *om* while concentrating on its ultimate meaning—controls

not only the energy but also the mind. It thus leads the yogi to the realization of the essencelessness of the conditioned phenomena (see Dasgupta 1958, 168–69).

#### BUDDHIST MEDITATION: BASIC WHYS

Recent decades have witnessed a growing interest in meditation not only in the West but also in those sections of the Asian societies that traditionally were not supposed to and usually were unable to engage in active spiritual cultivation.<sup>15</sup> Reasons for this vary with each social group and individual, from religious beliefs to hopes for a healthier life. Concerning the latter, more and more scientific data suggest the possibility that meditation may be a positive factor in increasing our physical and mental well-being. The evidence is not as overwhelmingly conclusive and universally applicable as some religious figures and meditation enthusiasts would like us to believe, but one may at least draw a little comfort from knowing that twenty minutes of meditating are in all likelihood less harmful than spending them smoking.<sup>16</sup> Scientific research will continue to shed more light on the relations between meditation and health. This, however, is not our main concern here.

Buddhist meditation as a notable sociocultural phenomenon is very probably here to stay, and there are no basic reasons why its presence should not be welcomed. It is not its right to exist but rather the assessment of its range of possibilities and limitations that should concern us. Traditional Buddhists, of course, have many positive, or rather superlative, things to say about this. Although there is no compelling evidence to doubt their bona fide, such an assessment, needs, however, to be done from various positions and angles. Being a believer in science, analytical empiricism, and agnosticism (definitely a cocktail guaranteeing eternal damnation), I feel that far too often, enthusiasts, Buddhist or not, tend to see too much in contemplative praxis and experiences, to embellish and raise them to unwarranted philosophical heights, and to sacrifice reason and critical spirit on account of the exotic otherness and aura of unassailable certainty associated with meditation.

I therefore have taken the liberty of scribbling down some admittedly unenlightened meditations on what I believe to be some of the caveats concerning Buddhist meditation.<sup>17</sup> It will be quite clear by now that in a genuinely Buddhist context, meditation is much more than a mere exercise for well-being or a therapeutic method. That it can be used for such purposes does not affect this point. For an earnest Buddhist follower, the basic motivation for practicing meditation is profoundly spiritual and aims at nothing short of Awakening. Spiritual cultivation, especially in its advanced stages, and no doubt Awakening itself appear to bring radical changes to the mind that most likely must be accompanied by neural modifica-

tions. Neuroscience is still a young field of research, but one of its most solid and tested cornerstones is the plasticity of the nervous system (see Gazzaniga et al. 2009, 101–6). Recent studies actually reveal the possibility of a connection between meditative training and changes in the brain structures (Lutz, Dunne, and Davidson 2007, 523; Slagter et al. 2007).

My chief philosophical doubts are not whether Buddhist meditation effects profound changes in the brain. When seriously practiced, it probably does. From a Buddhist standpoint, this psyche “surgery” is a must. As intimated above, here I want to question whether this surgery leads (1) to a substantially better knowledge of the essence of reality and (2) to a considerably greater amount of happiness unattainable by other means.

1. MEDITATION AS A PATH TO KNOWLEDGE. Let us first question whether philosophical claims presumably made from the vantage point of advanced meditative attainments and/or Awakening are true. Contemplatives are bound to say that they certainly are! But should an outsider, even a sympathetic one, accept those propositions that go against, or at least astray from, the main current of scientific consensus without solid evidence?

No doubt, science is based on falsifiable propositions, but this is one of its chief strengths. What we know today may be and often is corrected tomorrow. Its potentially changeable views and paradigms do not, however, imply that we should accept anything, even when coming from the mouths and pens of revered spiritual figures. I do not question their good faith. But why should we believe their world and mind outlook, which in Buddhism is so closely related to meditation, without serious scientific and philosophical examination? Is the possibility of attaining altered states of consciousness or remarkable levels of awareness an epistemic guarantee of the statements made by traditional contemplatives and scholastics? Is the experience of psychological otherness, that is, mental states different from the regular ones, enough to establish its truth value? What are we to make of such claims that meditation leads to a state that marks not only the cessation of suffering in a mundane sense but also the end of the cycle of rebirths?<sup>18</sup> Are the Four Noble Truths the highest and unchangeable expression of veracity? Is our ordinary ideative, conceptualizing mode of looking at phenomena so epistemologically doomed to failure that we have to wipe it out and embrace a state transcending the subject/object duality in order to grasp the so-called Realm of Ultimate Reality?<sup>19</sup>

To put it bluntly, how can we be certain that at least part of the cognitive content gained through, or associated with, advanced meditative states is not the result of autosuggestion rather than of genuine knowledge? (I construe the term *genuine knowledge* as the notion is usually understood in the scientific discourse as well as in any positivist approach. I use the term in a very broad sense and not referring to any particular philosophical

school.) “Men are nearly always willing to believe what they wish,” cautions Julius Caesar (*De Bello Gallico*, Book III, § 18). Is it not the case that contemplatives come to believe that the cognition they attain in meditation is precisely the knowledge they *wish* to gain? Is meditation a process of genuine epistemic discovery or an inner rite of autosuggestion?

Much depends on how we define the word *discovery*. Admittedly, along the path of spiritual metamorphosis, a practitioner also may attain a better understanding of some obscure or unknown parts of his or her self. In this sense, it may indeed be a process of discovery. But to an equal, if not higher, degree, it also seems to be a process of rehearsal, an effort to internalize received doctrines, a confirmation of what the Buddha and/or any other of his spiritual inheritors allegedly established to be *the* Truth. The so-called unbiased awareness of the mental processes in *vipassanā* or the obliteration of ordinary conceptual and perceptual content does not appear to be as “pure” as it is claimed to be. All meditative processes seem to be a priori informed with a series of presuppositions and expectations, many of which are beyond the epistemological scope of the meditative act itself—and often beyond scientific verifiability.

If this is the case, advanced meditative attainments, regardless of all health benefits, are little more than methods to implement a program of epistemic autosuggestion. Practitioners come to genuinely experience and internalize what the Buddhist system of doctrines and beliefs preconditions them to believe. This does not mean that spiritual masters and religious leaders manipulate their followers in a deliberately deceitful way. If we exclude some sad exceptions (probably unavoidable in any tradition), these revered figures must be honestly and earnestly implementing a paradigm of Truth in which they themselves have been trained and have absolute faith.

I do not claim that my suggestions here represent a definitive proof. They merely hint at one interpretative possibility. I do sincerely hope that future scientific research, especially in psychology and neuroscience, will bring more objectively verifiable findings. Science may still have a long way to go, but I trust that at some point in the future it will be possible to test, measure, observe, and analyze with more objectivity the very core of the epistemic claims made by traditional contemplatives and thinkers.

To offer a conjectural suggestion, the placebo effect may be at work in the case of meditative experiences as much as it is in a wide range of psychosomatic phenomena from alleviation of pain and depression to inducing feelings of alcohol intoxication and increasing muscular performance.<sup>20</sup> In a spiritual context, the process should probably be labeled the “*crēdo* effect” or “fideistic effect.” In its essence, it is a paradigm of expectancy and strong belief in the role of meditation. A process of robust preconditioning, such as faith in a master, rituals, communal life, and separation from the worldly environment, must dramatically increase the spiritual experi-

ence as well as its results.<sup>21</sup> No doubt, such preliminary and accompanying elements are indispensable for the success of the traditional recipe of training. Seen from a different perspective, however, all of these elements may constitute a pattern of preconditioning with strong effects on the cognitive content to be internalized by the contemplative.<sup>22</sup> Any attempt to disentangle autosuggestion from genuine knowledge faces huge challenges that require an equal effort of critically examining one's own epistemological foundations. Nonetheless, there is no reason why philosophy and neuroscience should not tackle the nature of meditative cognition.<sup>23</sup>

But maybe this way of looking at the matter is wrong altogether. Could it be that I commit an error stemming from a simple semantic confusion? Is it not more appropriate to describe advanced meditative states as "spiritual experiences" rather than cognitive acts? Actually I do think that the terms *experiences* and *states* are more suitable as long as they are not construed in a metaphysical sense. They are perfectly legitimate words if such states are conceived just as mental events (without any special importance a priori postulated) rather than windows into "higher" or "unknown" planes of existence.

Confusing the picture, however, is that many Buddhist contemplatives describe such states not only as private experiences or knowledge in the sense of heightened awareness of these experiences. Such dimensions do exist, but these states are also described as containing or entailing important cognitive elements alleged to be universally valid and containing large doses of metaphysical assertions. And this, as argued above, raises quite a few problems when the assertions are "contemplated" from a non-Buddhist perspective.

2. MEDITATION AS A PATH TO HAPPINESS. Let us suppose for argument's sake, however, that cognition obtained or ascertained through meditative techniques essentially refers to becoming aware of an important part of one's self. Traditionally, this experience is explained differently in various traditions, from the realization of the No(n)-Self to attaining one's original nature, labeled "Buddha-nature," "original face," and so forth. Leaving aside the Buddhist vocabulary and rhetoric, which may raise further philosophical problems, I think that even outsiders can accept that these states or spiritual experiences can bring more serenity and better concentration. This is corroborated by an increasing number of psychological and neuroscientific studies. What then is wrong with experimenting and attaining such states? Without any hesitation, my answer is: Basically nothing!

How generalized should be the expectation that these experiences are to be realized by everyone? Is meditation a must for all men and women if they wish to fulfil themselves in a spiritual or even mundanely human sense? Or is it an alternative method, one among many others, applicable

to some but of no consequence to others? The former is the traditional answer in at least a few major currents in Indian Buddhism.<sup>24</sup> I personally plead for the latter, that meditation is one among many other possibilities of finding well-being and happiness. This hardly makes me a genuine, let alone practicing, Buddhist. If anything, my answer might be qualified as Buddhist in a weak sense.

Why do I espouse this view? If one seriously practices meditation along traditional lines, with the aim of reaching freedom from suffering, he or she will likely discover that attaining a state of utter nonattachment and serenity turns out to be an extremely, even excruciatingly, difficult task. I do not deny that some exceptional individuals seem to attain Awakening more or less easily and in a relatively short time. But if we look into almost any single record, traditional or modern, we cannot fail to notice the immense amount of effort, patience, and dedication required in the vast majority of cases. From a Buddhist standpoint, this superhuman struggle is rewarded at the end of the road by complete and eternal Liberation from suffering. But, translated into the terms of mundane biology and psychology, all such efforts boil down to huge physical and psychological pain.<sup>25</sup> In other words, one deliberately chooses suffering with a hope to eliminate suffering. Additionally, in terms of social happiness, one's decision to engage in contemplative praxis in earnest, whether as monastic or lay follower, may bring extra suffering to at least some close to him or her.<sup>26</sup>

Is this tremendously difficult way of life worth taking for all of us? The traditional Buddhist answer is an unequivocal "Yes!" However, if you believe that we have a single life and that it is in our biological nature to avoid suffering as much as possible during our brief "strutting and fretting upon the stage," to paraphrase Shakespeare, it becomes doubtful whether you should make such an investment of time and energy. It would be interesting to figure out an experimental method of measuring and objectively comparing the amount of happiness gained through the two approaches. On the one hand, we have a Buddhist contemplative endeavoring to stay aloof from the natural pleasures in life but eventually gaining utter serenity (or so he hopes; failure cannot be excluded). On the other hand, there is the average, nonspiritual person. He or she will be subject to varying degrees of suffering, some of it unavoidable, some produced by her DNA-conditioned proclivities, but will stay away from any deliberate full-scale course of self-tormenting through spiritual praxis. Who, in the last analysis, will be the happier? I have no definitive answer, but I would not unconditionally bet on the former even though I do not think that the latter's choices in life are always wise and conducive to happiness.

Methodologically, what could greatly complicate an objective assessment is that happiness is not a universally uniform concept but rather an individual-based category. Both types of persons in our example, especially if

they strongly believe in their system of values, may declare and believe that the degree of their happiness surpasses the degree of suffering that their choice has entailed. Once again, the fideistic effect may play a distressingly large role in this context. One can only hope that future research will succeed in finely mapping and identifying subtle, and no doubt hugely complex, patterns of neuronal firing linked to the role of belief in shaping one's happiness. This goal, I believe, is achievable, but probably not in the near future. A much more daunting task is to find a concrete definition of happiness that is universally acceptable to all members of the human race. Even an overly optimistic evaluation will tell us that this is bound to take far longer to accomplish.

What about the less ambitious and therefore less traditional goal of practicing meditation for such worldly benefits as health and well-being? I say, Why not? But only with the proviso that one genuinely likes it. By *genuinely* I mean as naturally as one enjoys, say, strolling in the woods, listening to Mozart, or savoring chocolate. If one does not and instead discovers that the latter types of activity bring a similar or even greater degree of well-being and peace than meditation does, we may conclude with good reason that meditation is only an alternative, an interesting and ecologically friendly endeavor, but one that is far from being universally necessary. For those who do not share an orthodox Buddhist outlook, this may seem a sensible conclusion. But from a traditional Buddhist standpoint, such a conclusion would seriously impair the universal truth and message that this religion claims to convey.

3. CONCLUDING REMARKS. One of the numerous hypotheses put forward by eminent neurologist James Austin is that Zen meditative training builds on and expands the potential offered by the so-called blank periods or pauses. These are moments in which we drift far away, without thinking of anything, while still being able to carry on such tasks as washing our faces or combing our hair. They may constitute as much as five percent of our average day. According to Austin, such pauses efface “many of our usual *I-Me-Mine* boundaries,” and a deep spiritual Zen experience amounts to “impal[ing] one of these major blank moments” with “a thin wedge thrust[ing] up from a major energised brain state.” “Such an experience would then consist of a basic triad: (1) a blank moment, (2) no self around, (3) this blank, no-self moment penetrated by the clarity of enhanced awareness” (Austin 1998, 370).

It would be a gross misinterpretation to reduce Austin's detailed investigation to such a brief description. The preceding paragraph, however, can be taken as representative of at least one of his lines of interpreting Zen meditation.<sup>27</sup> Nonetheless, as a mundane agnostic, I cannot help wondering whether the brain's propensity to allow itself blank pauses should not be accepted as such. If we can naturally enjoy a five percent daily relish in



such states, why should we bother to take up arduous courses of meditative practice and produce energized brain modes?

The human being has a very powerful ally—the faculty to reflect, to think in critical and rational terms. Some of the conclusions yielded by lay cogitation are actually identical or close to some of the Buddhist teachings upon which meditative praxis focuses, but this does not make Buddhism the one and only key to happiness and wisdom. A large number of Buddhist sources tend to unfairly caricature ordinary people as complete simpletons. I, for one, do not think that we need Buddhist sermons and intensive meditation training in order to realize how fickle is our flirting with the joys of life or that pruning the overgrown branches of the ego can actually increase the lushness of our and others' happiness. As for “awareness,” we surely come to know from an early age that a basic amount of it is a must (at least so much as to prevent us from combing our faces), and even the most worldly people make conscious efforts to stay attentive.

Are lay cogitation and awareness enough? Far too often do reflection and attention fail to be translated into practice. Maybe meditation is the locus or equation that makes the translation possible. For some, this may be true. For others, the answer turns out to be negative. And this seems to be so not only in the case of amateurs or weaklings. Years and years of meditative praxis may bring little or no fruit at all. Supposedly accomplished masters fall prey to worldly temptations and display more greed than the untrained masses. Such “masters,” of course, betray their Buddhist ideals. But this is not the point here. If in the end meditative training fails more or less in the same manner as lay reflection does, can we declare the former to be *the* universally valid magic bullet? My answer, obviously, is no. I do not, however, wish to give the impression that I dissuade people from engaging in meditation.

I suppose that the more we learn about the brain, the easier it will be to formulate milder and nonsectarian methods of mental training. Such methods could presumably offer larger sections of the society at least some of the health benefits associated with orthodox Buddhist meditation. Antoine Lutz and colleagues (2007, 545) express optimism about the “potential [of the meditative practices] to evolve into a more secular form of mental training, with alleged therapeutic, pedagogical, and/or health value.” In a more distant future, a day may come when science will have sufficient data to produce (chocolate-flavored, I hope) medication able to create or approximate effects traditionally obtained after long meditative training.

I again stress that these rambling thoughts are only a hypothetical view put forth with a genuine intention to tackle meditation free from traditional presuppositions. I hope that they raise some legitimate questions that, far from denying the overall value of the Buddhist path, let alone its right to exist, try to better understand and assess it. Moreover, I gladly admit that in spite of its problematic issues, Buddhism has many remark-

able and less controversial facets that can inspire and comfort many minds and hearts.<sup>28</sup> Even an agnostic strolling in the woods can learn from Buddhism to become serenely aware that the lush greenery, chirping birds, and wooded slopes are far from being permanent (mainly the birds), can beget suffering (especially if you do not watch your step), and are neither Self nor mine (after all, you wouldn't want to be sued by the landowner, would you?).

## NOTES

This article is a substantially modified and abridged version of my presentation at the Symposium "Imag(in)ing the Buddhist Brain," 20 March 2009. I am sincerely grateful to Professors Jonathan Silk and Lisa Lai-Shen Cheng for inviting me to the Symposium as well as to Dr. Lorenza Colzato and Prof. Willem Drees for accepting this contribution for publication.

1. My inquiry is devoted to Buddhist meditation, but the basic questions discussed here apply, I believe, to the contemplative paths in all spiritual traditions.

2. The picture is far from clear, but it is possible that in the earliest stages of Buddhist history, these strategies may have been two distinct techniques that later were combined into one method.

3. I follow here the description given in the *Dīghanikāya*, vol. I (Davids and Carpenter [1890] 1975), 73–75. The formulae used for this and the other absorptions as well as the immaterial attainments mentioned below represent stock-phrases appearing in numerous Buddhist sources.

4. This perfect tranquility, unaffected by emotional fluctuations and yet maintaining awareness, strongly resembles the Nirvanic state itself. Scholars such as T. Vetter (1988, XXVI–XXVII) actually have argued that the fourth absorption may have been the "ground" of the Buddha's Awakening.

5. The description here follows *Anguttaranikāya* (Hardy [1899] 1958), 410.

6. This explanation is based on the *Abhidharmakosa* (Pradhan 1975, 10, ll. 15–16), a famous philosophical compendium by Vasubandhu (ca. 350–430), but it reflects a common understanding of the term in Buddhism.

7. The description here follows the *Majjhimanikāya* III (Chalmers [1899] 1977): 104–9. This and other forms of meditative praxis in Early Buddhism are brilliantly analyzed by Lambert Schmithausen (1981).

8. This phase of reflective realization is typical of the *vipassanā* meditation. As argued by Schmithausen (1981, 235–39), the method as depicted in extant sources actually may represent a combination of different historical strata.

9. The description here basically follows *Pañcavimsatisāhasrikā* (Dutt 1934), 208. The set of the three contemplations is known from Early Buddhism.

10. This can also be seen in the basic approach of *vipassanā* meditation today. Achaan Chah, one of its most prominent exponents in modern times, describes it as: "Whatever arises, just watch" (Chah [1985] 1997, 99).

11. The description here basically follows *Majjhimanikāya* I (Treckner [1988] 1979), 55–63.

12. *Majjhimanikāya* I (Treckner [1988] 1979), 58. Here I read with the *Chaṭṭha Sangāyana*.

13. On the symbolism of the drop in Tantrism, see Dasgupta 1958, 178.

14. I am unsure whether practices like the chanting/repetition of mantras, sutra titles, Buddha names, and so forth, especially if accompanied by deeper-than-average levels of concentration, should be considered technical steps within physiology-centered meditation, one different subclass, or a separate class altogether (sound-centered meditation).

15. Meditation as part of an all-out effort to attain Awakening traditionally was limited to monks and nuns. Its spread to wider sections of Asian societies is a relatively new phenomenon (see, for instance, Gombrich and Obeyesekere 1988, 237–40, 445–63, on the rise of lay meditation in modern Sri Lanka). The practice of Buddhist and Hindu meditation in the West on large scale is a much more recent event. In the United States and Western Europe, it is traceable

to the 1960s. Meditation practice attained mass proportions, however, in a relatively short time. A Gallup poll in 1976 revealed that about 6 million people were practicing meditation in the United States alone (see West 1987, "Preface," vii). And numbers keep on growing. A survey undertaken by the United States government in 2007 suggests that more than 20 million adult persons in the country have tried meditation (National Center for Complementary and Alternative Medicine 2009).

16. Recent decades have yielded an impressive amount of scientific research into the effects of meditation on mental and physical health (for recent presentations, see National Center for Complementary and Alternative Medicine 2009; Ospina et al. 2007; *Wikipedia*, "Health applications . . ."). It seems that although an increasing number of studies indicate a clear relation between meditation and health, we still need more data to reach firm conclusions. It may be useful to cite here the prudent conclusions of the assessment compiled by Maria Ospina and colleagues (2007, v): "Many uncertainties surround the practice of meditation. Scientific research on meditation practices does not appear to have a common theoretical perspective and is characterized by poor methodological quality. Firm conclusions on the effects of meditation practices in healthcare cannot be drawn based on the available evidence. Future research on meditation practices must be more rigorous in the design and execution of studies and in the analysis and reporting of results." Antoine Lutz and collaborators (2008, 168) point out that "though several clinical studies have reported changes in, for example, cortisol or immune function as a function of mindfulness-based therapies . . . , there are no data that mechanistically link changes in the brain that might be produced by meditation, and alterations in peripheral processes—for example, in immune function." Even the presentation compiled by the National Center for Complementary and Alternative Medicine (2009) mentions the possibility of side effects and risks. Clinical limitations of the applicability of meditation were pointed out fairly early in the history of research (for example, Carrington 1987, 156–57). One should not forget that there also are reported cases of physiological and mental detriments associated mainly with some forms of Tantric praxis. The so-called kundalini syndrome may pose serious risks especially when the meditator practices incorrectly or does not receive sufficient guidance (Kason 2000, 177, 253, 259–60, 270; *Wikipedia*, "Kundalini Syndrome").

Not to strike an overly pessimistic note, let me also mention some positive assessments. Lutz and colleagues (2007, 522–23) list various beneficial changes that might be brought to the brain and body through meditative practices, whether genuinely Buddhist or inspired by traditional techniques. Studies like this one, Slagter et al. 2007, and Lutz et al. 2008 also suggest that meditation may have good effects on the improvement of attention regulation, increased control over the distribution of limited brain resources, and so forth. (I am grateful to Dr. Heleen Slagter for drawing my attention to and providing me with the last two studies.)

17. The term *analytical empiricism* belongs to Bertrand Russell. The great (for me, *the* greatest) philosopher uses it in a few contexts. One of the best explanations is found in the *History of Western Philosophy* ([1946] 1987, 783–89). I think that this approach remains the most sensible way of doing philosophy. I must add that my use of the word *believer* in this context is not accidental. A proof beyond reasonable doubt that the scientific method is our best cognitive tool is, if anything, a mere desideratum. I think, or rather believe, that there are good (albeit not infallible) reasons for choosing it.

18. From a (mainstream) scientific viewpoint, the idea of rebirth is problematic, to say the least. Yet, I hastily add that the data gathered by such psychologists as Ian Stevenson and Jim Tucker is worth serious attention from the entire scientific community. (For a recent presentation, see the excellent study of Tucker 2005.) The existence of numerous cases of children whose memories of (what they claim to be) their previous lives surprisingly fit with independently verified data presents us with an intriguing corpus of findings. We need more data, however, as well as more scientists working from different angles and with various working hypotheses before anything certain (whether proof or disproof) can be attained. But ignoring such data is not a healthy scientific attitude. If rebirth ever comes to be accepted by science, such a Copernican revolution will be brought about not by belief in Buddhist or Hindu scriptural authority but because of objectively verifiable evidence. Furthermore, as also pointed out by Tucker, even if rebirth is a fact, there are no a priori reasons to postulate that this is regulated by the mechanisms depicted in Buddhism or Hinduism.

19. That a mental state claiming to fit this description is attainable is not a point here. Actually, the Tibetan meditation *rig pa cog bzhag* appears to be similar in technical details and

spiritual results to the oblitative meditation described in the *Mahāyānasūtrālamkāra*. The practice of *rig pa cog bzhag* is presented and studied in Lutz, Dunne, and Davidson 2007, 513–17, where it is called “open presence.” The authors give a persuasive explanation of the states generated by the technique. However, what is important for my point here is not the psychological feasibility of such states but a more basic question as to why these states must be given philosophical priority and be regarded as giving access to a so-called Supreme Reality, an epistemic as well as ontological mode ultimately more genuine than the reality that we perceive through ordinary cognitive processes.

20. There is now little doubt as to the existence of the placebo effect, and an impressive literature has been growing since the 1950s. For general studies, see Harrington 1997; Evans 2004; Moerman and Jonas 2002, and *Wikipedia*, “Placebo.” On placebo in depression treatment, see Mayberg et al. 2002; Vedantam 2002. On the improvement of muscular performance and perceived fatigue, see Pollo, Carlino, and Benedetti 2008. See also Benedetti, Pollo, and Colloca 2007, which investigates the activation of the endogenous opioid systems through placebo in sports. For inducing intoxication feelings, see O’Boyle et al. 1994.

21. The importance and role of belief in relation to placebo has already been noted by scholars. See, for instance, Evans 2004, 70–95; Morris 1997.

22. The placebo effect is apparently more likely to take place if the subject’s expectations are supported by strong emotional or faith factors. Speaking of a possible explanation for the fact that placebo does not always happen, M. Lanotte and colleagues suggest that “healing has its benefits but also its costs,” such as the metabolic burden that the immune mechanism may add to an injured body. “Perhaps only when a friend, relative, or healer indicates some level of social support (for example, by performing a ritual) is the individual’s internal economy able to act” (2005, 475). For an excellent analysis from the perspective of evolutionary psychology, see Evans 2004, 96–118.

23. It seems that at present many neuroscientists, though aware of the metaphysical implications made by the traditional subjects whom they test, try to stay away from making philosophical commitments on the substance of such statements (see, for instance, Lutz, Dunne, and Davidson 2007, 535). Neurologists such as James Austin (1998) are directly involved in spiritual practice and taking a more assertive stance, but they do not represent a majority. The former position is more in tune with the basic paradigm of science. I do understand that more data need to be gathered and analyzed, but I also believe that whenever possible, neuroscience should not shy away from tackling (hypothetically as it may be) metaphysical claims.

24. Let us remind ourselves here that at least for lay Buddhists, meditation is not a duty. In traditional societies, lay followers usually had little to do with meditation, though they were not barred from it and occasionally may have been encouraged to practice it when time and trade allowed. Things are quite different for monks and nuns. A considerable number of highly influential Buddhist sutras and treatises passionately preach the ideal of meditation as *the* crucial activity on the path toward Awakening. From such a perspective, monks and nuns should devote a large part (if not most) of their lives to meditative praxis. (Traditionally, the most meaningful way of life for a Buddhist is to join the monastic orders, the only—or at least the most certain—institution guaranteeing full involvement in spiritual cultivation.) In reality, monastics exclusively or chiefly dedicated to contemplative training do not seem to have been a majority. A monk or nun could and still can play an important role and command respect in the community even without sitting a single moment in meditation throughout his or her life. And it appears that historically, some monastic communities may have been quite inappropriate environments for meditation or even discouraged contemplative praxis altogether. For such examples, see Deleanu [2000] 2005.

25. Achaan Chah ([1985] 1997, 104–5) gives the following advice to meditators: “Practise endurance. If your legs hurt, tell yourself, ‘I have no legs.’ If your head aches, think, ‘I do not have a head.’ . . . You can change postures after an appropriate time, but do not be a slave to your restlessness or feelings of discomfort. Sometimes it is good just to sit on them. You feel hot, your legs are painful, you are unable to concentrate—just tell it all to die. The feelings will get more and more intense and then hit a breaking point, after which you will become calm and cool.” No doubt, if one wishes to practice meditation, this is *the* correct attitude. But it is clear that from the very beginning meditative training implies physical or mental pain. And higher stages of contemplative praxis, meant to eliminate subtler forms of afflictions, require increasing effort and sacrifice. Quite often, engaging in a very long (possibly lifelong) endeavor

to eliminate the DNA-programmed need to enjoy pleasures, which also include basic dietary and sexual urges, requires a gigantic amount of willpower and effort. This is a process that in biological terms is pain-generating. I do not deny that effort is important to life. Any type of achievement requires effort and endurance. The point I want to make here is that one should engage in meditative effort only if he or she finds it genuinely rewarding or necessary in one way or another.

26. That one's decision to become an ordained monastic may cause his or her family and friends suffering is obvious. The same may be true even if one continues a lay life but engages in spiritual practice in earnest. This possibility needs careful attention when discussing the amount of suffering that Buddhist practice creates or alleviates in society. (Especially in Mahāyāna Buddhism, this should be an important barometer of success on the bodhisattva path.) The following citation from Stephen Butterfield's *The Double Mirror* (1994) illustrates the point: "The very idea of detachment may be particularly annoying to a meditator's non-Buddhist lover or spouse. . . . We may feel less than thrilled at the news that our bodhisattva partner has decided to take on all sentient beings as family members, or that our anger, jealousy, and insecurity have become the objects of tonglen" (quoted from Coleman 2001, 123). (*Tonglen* is a Tibetan practice "in which meditators imagine themselves breathing in all suffering of the world and breathing out peace and contentment" [Coleman 2001, 112].) It is difficult to find objective criteria for measuring which type of person brings more happiness to society. Is it the relatively decent ordinary person attached to pleasure and therefore (at least sometimes) acting selfishly? Or is it the successful contemplative, nonattached and dedicated to universal salvation but irritating some of the people close to him/her?

27. Austin (1998, 367–70) comments here upon a passage from a text by the Chinese Chan Master Huangbo (d. 847?–859?).

28. I should probably add here that although I consider myself a philosophically moderate agnostic, I am, in my private hopes and fears, a Buddhist—not an orthodox believer and definitely not a practicing follower, but a sympathizer who finds a modicum of solace in some teachings and their chanting. I feel no soul-tormenting contradiction between the two sides of my mind, but, with all due respect and gratitude for the largely therapeutic function that Buddhism plays in my life, I do not think that reason should become clouded by one's emotionally soothing pendants.

## REFERENCES

- Austin, James H. 1998. *Zen and the Brain: Toward an Understanding of Meditation and Consciousness*. Cambridge: MIT Press.
- Benedetti, Fabrizio, Antonella Pollo, and Luana Colloca. 2007. "Opioid-Mediated Placebo Responses Boost Pain Endurance and Physical Performance: Is It Doping in Sport Competitions?" *The Journal of Neuroscience* 27 (44): 11934–39.
- Carrington, Patricia. 1987. "Managing meditation in clinical practice." In *The Psychology of Meditation*, ed. Michael A. West, 150–72. Oxford: Clarendon.
- Chah, Achaan. [1985] 1997. "Observing Your Mind." In *The Meditative Way: Readings in the Theory and Practice of Buddhist Meditation*, ed. Rod Bucknell and Chris Khan, 97–105. Richmond, Surrey: Curzon.
- Chalmers, Robert, ed. [1899] 1977. *The Majjhima Nikāya*. Vol. III. London: Pali Text Society.
- Coleman, James William. 2001. *The New Buddhism: The Western Transformation of an Ancient Tradition*. Oxford and New York: Oxford Univ. Press.
- Dasgupta, Shashi Bhushan. 1958. *An Introduction to Tantric Buddhism*. 2d ed. Calcutta, India: Univ. of Calcutta.
- Davids, T. W. Rhys, and J. Estlin Carpenter, eds. [1890] 1975. *The Dīgha Nikāya*. Vol. I. London: Pali Text Society.
- . [1903] 1966. *The Dīgha Nikāya*. Vol. II. London: Pali Text Society.
- Deleau, Florin. [2000] 2005. "A Preliminary Study of Meditation and the Beginnings of Mahāyāna Buddhism." In *Buddhism: Critical Concepts in Religious Studies*, Vol. III, ed. Paul Williams, 26–73. London and New York: Routledge.
- Dutt, Nalinaksha, ed. 1934. *Pañcaviṃsatisāhasrikā Prajñāpāramitā*. London: Luzac.

- Evans, Dylan. 2004. *Placebo: Mind over Matter in Modern Medicine*. New York: Oxford Univ. Press.
- Gazzaniga, Michael S., Richard B. Ivry, and George R. Mangun, with Megan S. Steven. 2009. *Cognitive Neuroscience: The Biology of the Mind*. 3d ed. New York and London: W. W. Norton.
- Gombrich, Richard, and Gananath Obeyesekere. 1988. *Buddhism Transformed: Religious Change in Sri Lanka*. Princeton: Princeton Univ. Press.
- Hardy, E., ed. [1899] 1958. *The Anguttara Nikāya*. Part IV. London: Pali Text Society.
- Harrington, Anne, ed. 1997. *The Placebo Effect: An Interdisciplinary Exploration*. Cambridge: Harvard Univ. Press.
- “Health Applications and Clinical Studies of Meditation.” [http://en.wikipedia.org/wiki/Health\\_applications\\_and\\_clinical\\_studies\\_of\\_meditation](http://en.wikipedia.org/wiki/Health_applications_and_clinical_studies_of_meditation).
- Kason, Yvonne. 2000. *Farther Shores: Exploring How Near-Death, Kundalini and Mystical Experiences Can Transform Ordinary Lives*. Toronto: Harper Collins.
- “Kundalini Syndrome.” [http://en.wikipedia.org/wiki/Kundalini\\_syndrome](http://en.wikipedia.org/wiki/Kundalini_syndrome).
- Lanotte, M., et al. 2005. “Expectation Enhances Autonomic Responses to Stimulation of the Human Subthalamic Limbic Region.” *Brain, Behavior, and Immunity* 19:500–509.
- Lévi, Sylvain, ed. 1907. *Asanga Mahāyāna-Sūtrālamkāra: Exposé de la doctrine du Grand Véhicule selon le système Yogacara*. Vol. I. Paris: Libraire Honoré Champion.
- Lutz, Antoine, John D. Dunne, and Richard J. Davidson. 2007. “Meditation and the Neuroscience of Consciousness.” In *The Cambridge Handbook of Consciousness*, ed. Philip David Zelazo, Morris Moscovitch, and Evan Thompson, 499–551. Cambridge and New York: Cambridge Univ. Press.
- Lutz, Antoine, Heleen A. Slagter, John D. Dunne, and Richard J. Davidson. 2008. “Attention regulation and monitoring in meditation.” *Trends in Cognitive Sciences* 12 (4): 163–69.
- Matsunaga, Yukei, ed. 1978. *The Guhyasamāja Tantra*. Osaka: Toho shuppan.
- Mayberg, Helen S., et al. 2002. “The Functional Neuroanatomy of the Placebo Effect.” *The American Journal of Psychiatry* 159:728–37.
- Moerman, Daniel E., and Wayne B. Jonas. 2002. “Deconstructing the Placebo Effect and Finding the Meaning Response.” *Annals of Internal Medicine* 136 (6): 471–76.
- Morris, David B. 1997. “Placebo, Pain, and Belief: A Biocultural Model.” In *The Placebo Effect: An Interdisciplinary Exploration*, ed. Anne Harrington, 187–207. Cambridge: Harvard Univ. Press.
- National Center for Complementary and Alternative Medicine. 2009 (updated). “Meditation: An Introduction.” <http://nccam.nih.gov/>
- O’Boyle D. J., A. S. Binns, and J. J. Sumner. 1994. “On the Efficacy of Alcohol Placebos in Inducing Feelings of Intoxication.” *Psychopharmacology* 115 (1–2): 229–36.
- Ospina, Maria B., et al. 2007. “Meditation practices for health: State of the research.” *Evidence Report/Technology Assessment*, Number 155. Agency for Healthcare and Research Publication, No 0-7-É010 (June).
- “Placebo.” <http://en.wikipedia.org/wiki/Placebo>.
- Pollo, Antonella, Elisa Carlino, and Fabrizio Benedetti. 2008. “The Top-down Influence of Ergogenic Placebos on Muscle Work and Fatigue.” *European Journal of Neuroscience* 28 (2): 379–88.
- Pradhan, P., ed. 1975. *Abhidharmakosabhāṣya of Vasubandhu*. Patna: K. P. Jayaswal.
- Russell, Bertrand. [1946] 1987. *A History of Western Philosophy*. London: Unwin.
- Schmithausen, Lambert. 1981. “On Some Aspects of Descriptions or Theories of ‘Liberating Insight’ and ‘Enlightenment’ in Early Buddhism.” In *Studien zum Jainismus und Buddhismus. Gedenkschrift für Ludwig Alsdorf*, ed. Klaus Bruhn and Albrecht Wezler, 199–250. Wiesbaden: Alt- und Neu-Indische Studien.
- Sferra, Francesco, and Stefania Merzagora, eds. 2006. *The Sekoddesatīkā by Nāropa (Paramārthasamgraha)*. Roma: Istituto Italiano per l’Africa e l’Oriente.
- Slagter, Heleen A., Antoine Lutz, Lawrence L. Greischar, Andrew D. Francis, Sander Nieuwenhuis, James M. Davis, and Richard J. Davidson. 2007. “Mental Training Affects Limited Distribution of Limited Brain Resources.” *PLoS [Public Library of Science] Biology* 5 (6): e138 ([www.plosbiology.org](http://www.plosbiology.org)).
- Treckner, V., ed. [1988] 1979. *The Majjhima Nikāya*. Vol. I. London: Pali Text Society.

- Tucker, Jim B. 2005. *Life Before Life: Children's Memories of Previous Lives*. New York: St. Martin's Griffin.
- Vedantam, Shankar. 2002. "Against Depression a Sugar Pill Is Hard to Beat." *The Washington Post*, 7 May.
- Vetter, Tilmann. 1988. *The Ideas and Meditative Practices of Early Buddhism*. Leiden: E. J. Brill.
- Warren, Henry Clarke, ed. [1950] 1989. *Visuddhimagga of Buddhaghosàcariya*. Rev. Dharmananda Kosambi. Delhi: Motilal Banarsidass.
- West, Michael. A. ed. 1987. *The Psychology of Meditation*. Oxford: Clarendon.