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Contemplative Science and Secular Ethics

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Abstract: This article argues that the emerging project of contemplative science will be best served if it is informed by two perspectives. First, attention should be paid not only to non-analytical and/or mindfulness-based practices, but to a fuller range of contemplative practices, including analytical styles of meditation. Second, the issue of ethics must be addressed as a framework within which to understand contemplative practice: both theoretically in order to understand better the practices themselves and the traditions they come from, and practically in order to understand the ways in which contemplative practices are deployed in contemporary societies. The Tibetan Buddhist Lojong (*blo sbyong*) tradition and secularized practices derived from it, which are now an area of study in contemplative science, are examined as a kind of case study in order to make these two points and illustrate their importance and relevance for the future of this emerging field.

Keywords: contemplative science; meditation; compassion; secular ethics; Lojong

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1. Introduction

Increasing interest in the scientific and interdisciplinary study of contemplative practices is giving rise to a field of study that may be called "contemplative science." Despite the growing number of publications that examine in an empirical way the effects of contemplative practices such as meditation, theoretical work that would contextualize these studies lags far behind. This article argues that the emerging project of contemplative science will be best served if it is informed by two perspectives. First, attention should be paid not only to non-analytical and/or mindfulness-based practices, but to a fuller range of contemplative practices, including analytical styles of meditation. Second, the issue of ethics must be addressed as a framework within which to understand contemplative practice: both theoretically in order to understand better the practices themselves and the traditions they come from, and practically in order to understand the ways in which contemplative practices are deployed in contemporary societies.

The Tibetan Buddhist Lojong (*blo sbyong*) tradition and secularized contemplative practices adapted from that tradition are used in this article as a kind of case study in order to make these two points and illustrate their importance and relevance for the future of this emerging field. The Lojong tradition emerged in Tibet in the eleventh century and consists of texts that concentrate on relatively simple to explain (although not necessarily simple to execute) practices that are often not elaborated upon in a very philosophical manner. These practices aim to transform mental states and behaviors that are harmful to oneself and others into mental states and behaviors that are beneficial to oneself and others, with the principle objective being the cultivation of an expansive and genuinely altruistic compassion.

In this article, secularized Lojong-based approaches are examined to expand the purview of contemplative science and also to show how a non-metaphysical basis for the entire field can be elucidated by pointing to key universal human experiences that can serve as axiomatic foundations for ethical reasoning. This approach also could help the emerging field of contemplative science

to navigate between two tendencies. These are, on the one hand, universalizing tendencies from both scientists and contemplatives, and, on the other hand, a relativistic particularism typical of some religious studies and cultural anthropology scholarship. In the future, other traditions can be examined in similar ways to expand the purview of contemplative science.

2. Contemplative Science and Secular Ethics

Buoyed by advances and new research in neuroscience, psychology, psychoneuroimmunology, and the scientific study of meditation, the emerging field of "contemplative science" is seen by many as an exciting new development. While a standardized definition of contemplative science is still emerging, here it is used to refer to the interdisciplinary and scientific study of contemplative practices across traditions with a particular interest towards understanding their underlying features, mechanisms, and effects so that they can be employed in secular or non-traditional settings to benefit individuals and groups. This definition describes both the research taking place today and the broader context orienting that research, namely a context oriented towards the alleviation of human suffering. It also serves to differentiate contemplative science from the merely cultural, historical, or textual study of contemplative practices, although such studies would naturally contribute, and indeed be essential to, the broader project of contemplative science.

The highly interdisciplinary nature of this new field necessitates careful attention to key methodological and conceptual questions, which if not addressed threaten to undermine the project from the outset. Among them is a constellation of questions around perennialism, reductionism, and universalism. The focus on the scientific study of brain and body states affected by contemplative and religious practices introduces a tendency towards the universalization of experience, based in part on the apparent homogeneity of bodies and brains, and at times on appeals to evolution. This is mirrored by universalizing rhetoric about the nature of mind and contemplative experience from contemporary contemplative practitioners themselves [1–4]. These are typically based on metaphysical assertions, appeals to religious sources considered authoritative, or appeals to a purported collective body of contemplative experience discovered and verified by traditional meditators over centuries or millennia. Both tendencies introduce elements at odds with typical religious studies approaches and also at odds with the diversity of accounts of experience presented in the source traditions themselves. Moreover, qualitative research methodologies, which have been severely underrepresented in the young field of contemplative science, are starting to reveal a more variegated and less homogeneous picture. This is an important topic for all those in religious studies who have an interest in experience; Proudfoot [5] and more recently Taves [6] have struggled with the issue of how to navigate between explanatory reduction and attention to the varieties of individual religious experience.

Contemplative science will have to navigate between the two extremes of universalism and particularism if it is to contribute meaningfully to human knowledge and foster increased human well-being, which are typically its explicit and implicit agendas. This problem has become even more salient due to increasing attention within contemplative science to explicitly normative and ethically-oriented practices, such as Cognitively-Based Compassion Training (CBCT) and other lovingkindness and compassion meditation techniques [7]. Contemporary approaches to mindfulness, which has played a central role in contemplative science, have often been presented as relatively value-free, due to mindfulness typically being defined as "non-judgmental, present moment awareness." This has allowed contemporary mindfulness practices to find their way into healthcare, psychotherapy, and even school settings while typically avoiding some of the more complex questions of ethics and values. Monteiro et al., however, argue that even these contemporary mindfulness practices incorporate elements of Buddhist philosophy in the way they teach practitioners to interpret certain stances towards experience (anger, clinging, and confusion) as causes of suffering [8]. This suggests that an implicit value orientation is present even in mindfulness-based interventions. More recently, secularized meditation protocols have expanded beyond present-moment awareness to focus explicitly on the cultivation of compassion, love, empathy, impartiality, and other ethically

charged concepts often informed by Buddhist traditions [9]. They are also explicit in their aims of transforming the ethical subjectivity of participants towards greater universal, unbiased compassion.

This rising popularity of compassion-based practices, and the introduction of mindfulness and compassion practices into areas such as elementary school education, moves contemplative science into new territory. It brings increased attention to the value systems of the traditions from which contemplative practices are derived, as well as to the value systems inherent even in secularized practices. There are several problems that could arise if this issue is not dealt with, problems that would hinder the development of contemplative science. First, by neglecting the ethical dimension of contemplative practices, contemplative science could unwittingly become ensnared in the ethical and value-laden claims of the specific religious traditions from which these practices stem. This is particularly sensitive in areas such as K-12 education, where the use of practices connected to religion in any way, even if apparently "evidence-based," remains highly problematic, but would of course be detrimental in general also to the scientific endeavor represented by the field of contemplative science. Second, it is plausible that the ethical framework of contemplative practices, and the internalization of this framework by practitioners, contributes in a significant way to the salutary effects of such practices. In other words, the cultivation of compassion and other pro-social and moral emotions may complement the cultivation of mindfulness and lead to more beneficial outcomes. If so, the ethical aspect of such practices should be investigated both theoretically and empirically. Lastly, we are already seeing the widespread instrumentalization of contemplative practices for a variety of purposes. These short-term purposes, such as a reduction in stress, greater success for one's business, or an increased ability to concentrate, can often be seen as beneficial, but if removed entirely from an ethical context, could also be used in ways that fail to address the deeper causes of human happiness and suffering. If an individual's engagement with contemplative practice leads to a disengagement from human relationships and indifference to others, or in extreme cases even to pathological and dissociative experiences, then this should be cause for concern. Titmuss, for example, argues that mindfulness defined as nonjudgmental awareness and removed from its ethical context, could be in danger of being misapplied to reinforce passivity in the face of injustice and maintain oppression [10]. One way of minimizing the risks of an instrumentalist approach to contemplative practices is to place them back within an ethical framework that considers long-term individual and human flourishing. Since it will not be appropriate to place them back within their original religious ethical contexts, a secular ethics context is required.

At first blush, those engaged in contemplative science may resist an explicit engagement with the question of ethics, thinking that such an engagement would require accepting the ethical claims of a particular religious tradition or metaphysical position. It is possible, however, that contemplative science can contribute to the establishment of a non-metaphysical ethical approach based on empirical investigation and the common experiences of individuals across diverse traditions—what some call "secular ethics". Such an endeavor would be a significant contribution not only to contemplative science, but to other fields as well, such as positive psychology, which has identified the importance of ethical traits for individual and collective flourishing, but has not yet established an adequate theoretical basis for this importance. Before turning in detail to the prospect of secular ethics and the contributions contemplative science can make to fields such as positive psychology, it is important to discuss the importance of broadening of the field of contemplative science beyond mindfulness-based approaches to include attention to practices that focus more explicitly on ethical cultivation and that employ analytical techniques.

3. Expanding Beyond Mindfulness

Contemplative science certainly owes a great debt to mindfulness-based interventions, which comprise a large number of the empirical studies of contemplative practices in recent decades. Indeed, for many in popular culture, "mindfulness" nowadays is understood to be coterminous with "meditation." Yet despite the remarkable rise of interest in mindfulness and the interventions that

employ and cultivate it, there remains some confusion regarding what mindfulness is and whether it refers to a function of the mind, a single yet universally applicable practice, or a heterogeneous set of specific historically and socially situated practices. As long as this confusion remains, there will also necessarily be confusion with regard to the relationship between mindfulness-based practices and other types of contemplative and meditative practices, such as compassion practices. The two cannot be seen as unrelated, especially as mindfulness is listed as a component (often a first component) of contemporary protocols for cultivating compassion, including Cognitively-Based Compassion Training (CBCT) and Compassion Cultivation Training (CCT) [11,12]. Another question that has remained obscured until relatively recently is the relationship between contemporary uses of the term mindfulness and contemporary mindfulness practices, on the one hand, and traditional Buddhist practices that employ the term mindfulness, including the practices of the Lojong tradition.

In his work examining this latter topic, Dunne [13] provides three reasons why it is helpful to ask the question of how contemporary conceptions of mindfulness relate to traditional Buddhist ones. The first is that most contemporary mindfulness-based interventions explicitly cite Buddhist practices as their source and inspiration; the second is that traditional Buddhist accounts may suggest or provide insight into new lines of research; and the third is that Buddhist traditions group practices together coherently in ways that may or may not align with groupings employed by contemporary mindfulness-based interventions [13]. One might be tempted in such a discussion to simply ask what the "true account" of mindfulness is, according to Buddhist sources. This is not possible, however. Dunne [13] notes, "to produce some single, authentic and authoritative account of mindfulness in Buddhism, not only must one ignore the diversity of views across Buddhist traditions, one must also ignore the historical development of individual traditions themselves."

There have been several recent attempts to define what "mindfulness" means, with entire articles devoted to addressing the difficulty of defining the term, such as Chiesa [14]. As mindfulness is such an important and dominant topic in the area of research around meditation, it is important to examine this from the perspective of moving contemplative science forward. At the heart of the problem is a disjunction between definitions of mindfulness that stem from contemporary mindfulness-based interventions (MBIs), such as Mindfulness-Based Stress Reduction (MBSR), and definitions that stem from traditional Buddhist sources. Definitions that rely on the former (MBIs) tend to define mindfulness as Bishop does, namely "as a kind of nonelaborative, nonjudgmental, present-centered awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is" ([15], p. 232). Definitions that rely on traditional sources are more complex, since these sources are more heterogeneous than the contemporary understandings of mindfulness used in MBIs. They derive from a wide range of Buddhist traditions over long stretches of time, and each of these traditions in turn may have introduced debates and nuances into their understanding of mindfulness. It is typically noted that the word "mindfulness" is used to translate the Pali and Sanskrit terms *sati* and *smṛti*, which are also commonly translated as "memory," "recollection," and even "reasoning on moral subjects," and "conscience" [16]. Dunne [13] has offered a heuristic for approaching these diverse traditions, dividing them into "classical" and "nondual" traditional accounts. It appears that some of the confusion in reconciling traditional and contemporary accounts of mindfulness arises from the fact that contemporary accounts, such as those presented in MBSR, bear resemblances to both classical and nondual traditions.

If we never find a way of resolving these tensions, certain problems are sure to arise that will stymie the development of contemplative science due to a lack of conceptual clarity. For example, a recent review article in the journal *Psychotherapy* defines mindfulness as "moment-to-moment awareness of one's experience without judgment," which is a definition that aligns with contemporary, rather than traditional, understandings of mindfulness. The authors then go on to state that "the term *mindfulness meditation* is typically used synonymously with Vipassanā, a form of meditation that derives from Theravada Buddhism", and later describe "Vipassana, Zen and Vajrayana" as "three mindfulness meditation styles" [17]. The authors may be correct that such terms and traditions are conflated in

popular usage and even in the scientific literature, but properly they all refer to quite distinct and different things. The term "mindfulness" is not identical to contemporary practices of "mindfulness meditation" like MBSR; nor should these be seen as the same as the contemporary Vipassanā movement (built around a specific contemporary meditation practice that bears some similarities, but is far from identical, to mindfulness-based interventions like MBSR), or classifications of entire Buddhist traditions such as Zen and Vajrayāna. The latter refer to traditions, or even sets of traditions, that contain a plethora of diverse meditation practices and styles that can only misleadingly be subsumed under the category "mindfulness," if mindfulness is defined as non-judgmental present-moment awareness.

The existing confusion about terminology and practices will certainly limit scientific research on the benefits of mindfulness-based and other meditation practices. Without a clear conceptual understanding and definition of mindfulness, the alleged growing literature on the "scientific benefits" of "mindfulness" is actually rendered meaningless. One can understand the wish to link together the benefits of a variety of contemplative practices together under the rubric of a single term, such as "mindfulness," as this renders the findings more uniform and perhaps convincing to a popular audience. There is no scientific justification at present for doing so, however. As yet, we lack both a widely accepted theoretical model and operational definition of mindfulness that would allow us to tie together both the diversity of "mindfulness practices" currently being studied scientifically and the variety of traditional accounts of mindfulness found in the Buddhist tradition. Promising headway is being made in this area, for example by Lutz et al. [18], who offer a sophisticated phenomenological matrix within which one can situate various forms of mindfulness practice. This remains an area that warrants more attention, since such models are essential to facilitate conceptual clarity in contemplative science, constrain the interpretation of research outcomes, and inform the development of future protocols and interventions.

4. Compassion

Rather than grouping such a wide variety of contemplative practices and traditions under the concept of "mindfulness," a better way forward for contemplative science would be to recognize a wide diversity of practices, only a few of which can be categorized as non-judgmental present-moment awareness. This is slowly happening, especially with increased attention to contemplative practices focused on the cultivation of compassion and those that employ analytical meditation.

Recent years have seen a quickly growing interest in the study of contemplative practices, including the study of such practices within neuroscience [19–21], psychology [22,23], and the health sciences [24–27]. This has resulted in recent developments such as a special issue of the *Annals of the New York Academy of Sciences* in 2014 dedicated to "Advances in meditation research: neuroscience and clinical applications" [28] and several new journals over the past six years including *Mindfulness*, the *Journal of Compassionate Healthcare*, and the *Journal of Contemplative Inquiry*. Although much of this work has dealt primarily with "mindfulness" practices, recently increasing attention is being paid to styles of meditation that aim explicitly at the cultivation of compassion.

This raises the question, however, of the relationship between "compassion" as an object understood within the Buddhist context (and indeed within the plurality of Buddhist traditions and contexts, each of which may contain slightly different understandings of compassion) and "compassion" as an object of contemporary scientific interest. A significant portion of the contemporary scientific interest in compassion (such as that represented by the labs of Richard Davidson [21,29], Tania Singer [7,20,30], Charles Raison [25–27], Kristin Neff [31–33], Philippe Goldin [34], and others) is in fact located within the context of this emerging dialogue between Buddhist, and predominantly Tibetan Buddhist, conceptions and practices of compassion and contemporary scientific paradigms and research. The viability of this emerging dialogue between Buddhism and modern science, however, depends in part on having a clear understanding of compassion in all its complexity within the Buddhist traditions, and again especially Tibetan Buddhism, considering that many of the practices and protocols being studied have emerged from Tibetan Buddhism. This foundational step already

requires certain processes of translation—both literal translation of Tibetan texts into English and other languages prominent in the dialogue, for example, as well as the translation of concepts from centuries-old texts to modern contexts. Such a first stage would result in a clearer understanding of compassion as it is presented, perhaps in multifaceted ways, in Buddhism. It would serve an important foundational role in then furthering the second stage, the dialogue between science and Buddhism on the scientific study of contemplative practices, which would require further efforts in conceptual translation.

In the Lojong tradition, a seminal work on the cultivation of compassion in stages is Je Tsongkhapa's *Lam rim chen mo* ("Great Treatise on the Stages of the Path to Enlightenment") [35]. Tsongkhapa's presentation of compassion and how to cultivate it, as presented in this text, has served as the basis for Cognitively-Based Compassion Training, developed at Emory University by Geshe Lobsang Tenzin [11]; Compassion Cultivation Training, developed at Stanford University by Geshe Thupten Jinpa [12]; and other Lojong-based programs [36,37]. It should be noted, however, that Lojong as a tradition is common to the various schools of Tibetan Buddhism, not only the Geluk school founded by Tsongkhapa. Compassion in contemporary scientific inquiry is typically understood as an emotion or an affective state, but the firm distinction between cognition and emotion, now increasingly scrutinized in the cognitive sciences as well, is largely absent in the Tibetan Buddhist tradition, which has no word equivalent to "emotion." Still, in contemporary psychology "emotion" tends to connote a deeply embodied state that draws upon evolutionarily "older" parts of the brain, such as the limbic system, to process information and prepare the organism for appropriate action [38–40], despite the fact that it seems increasingly clear that there is no hard and fast line between cognition and emotion [41]. Perhaps for this reason, Lojong practices employ what would appear to be both cognitive reframing and emotion regulation.

Drawing from Lojong, and in particular from the work of Tsongkhapa and others from his tradition, CCT and CBCT both employ the practice of "analytical meditation" (Tib. *dpyad sgom*) followed by "stabilizing meditation" (Tib. *'jog sgom*). Analytical meditation, as interpreted by the tradition these contemporary protocols draw from, uses the concentration cultivated through focused attention practices to investigate a particular topic with the intention of developing new insight into it that will change one's perspectives in an ongoing way, thereby resulting in changes in emotion and behavior [42]. Analytical meditation can therefore involve examining a specific topic or question from multiple angles to develop conviction regarding it, but because it is practiced alongside and founded upon stabilizing meditation (also often called "focused attention" in contemporary accounts), it incorporates sustained attention and is not merely closing one's eyes to think about an issue or problem [42]. Moreover, although the practitioner can investigate in any way he or she chooses, they would typically follow specific guided lines of inquiry provided by the Lojong tradition to achieve specific insights. It should be noted that while CBCT and CCT draw from the Lojong tradition, analytical meditation itself is not unique to Lojong and is commonly used in other areas of the Tibetan Buddhist tradition [42].

Although a working definition of contemplative science was presented at the outset of this article, at present we lack standard, accepted definitions of contemplative science and contemplative practice [1,43,44]. Clearer definitions would avoid a conflation of the terms "mindfulness," "meditation," and "contemplative practice." Here, contemplative practice refers to a broader category of practices aimed at the transformation of subjectivity that can include traditional and contemporary accounts of mindfulness, but also analytical forms of practice such as those from the Lojong tradition. Until recently, much of the research in contemplative science has focused on non-analytical forms of contemplative practice such as mindfulness-based interventions and focused attention practices. An important task for the discipline of contemplative science is to engage in a concerted effort to define terms in advance such that they do not limit the field. Unfortunately, little collaborative effort is being devoted to this task. Moreover, while definitions will be helpful, simple definitions are not enough, because terms like "consciousness" and "mindfulness" do not simply refer to simple,

identifiable physical objects that we can point to and agree upon, such as a chair, a table, or a mountain. They actually perform complex roles within entire systems of thought. Although Buddhist texts offer numerous, apparently simple definitions of "consciousness" (Tib. *rnam shes*) or "mind" (Tib. *blo*), coming to understand what consciousness or the mind actually is, beyond merely being able to recite the definition, is actually considered an ongoing process that is not separate from the lifelong trajectory of one's spiritual development.

Therefore, in addition to definitions, we also need to understand how these terms are used within the thought world of a tradition and how they relate to other terms in a complex webs of relationships. This in turn requires a close examination of these terms within their respective traditions, and then an attempt to bring that understanding from both sides together. In doing so, it is imperative to seek to navigate a middle path between naive universalism and narrow particularism. Naive universalism has characterized some aspects of contemplative science thus far, as we have seen above in the case of grouping multiple diverse practices and traditions as "mindfulness"; it treats complex terms like "mindfulness," "consciousness," "mind," "compassion," "empathy," and "meditation" as if they required nothing more than a single-sentence definition, or no definition at all, even when investigating across traditions, or even across multiple traditions at the same time.[1] Equally problematic, however, is narrow particularism, characteristic of some research in the humanities and in cultural anthropology, which derives from cultural variability a case for cultural relativism [46]. It is reasonable to ask whether concepts like "compassion" can only be understood when situated fully within a historical, cultural, and religious context, and whether there is an essence to an emotion such as compassion that would mean that *karuṇā* (the Sanskrit word commonly translated as "compassion") in India 2000 years ago or *snying rje* (the Tibetan term) 1000 years ago bear a close resemblance to each other as well as to our contemporary understanding of the English word "compassion" in the early 21st century. Such questions are mirrored in debates between those who advocate for the universality of "basic emotions" across cultures, such as Ekman [39], and those who argue against the universality of such emotions, such as Barrett [47] and Lutz [48]. Regardless of the outcome of such debates, it will be important for contemplative science to attempt to navigate between extremes of universalism and particularism, because real dialogue requires recognizing both commonalities and differences across parties and contexts. This will also require dialogue across disciplines that traditionally take a more universalizing stance, such as psychology, neuroscience, and the health sciences, and those that traditionally take a more particularist stance, such as religious studies, cultural anthropology, and the humanities.

5. The Lojong Tradition and Potential Contributions to Contemplative Science and Psychology

Meaning "thought transformation" or "mind training," Lojong can be understood in at least three senses. In the broadest sense, the term is sometimes applied to all of the Buddha's teachings, since they are all understood as being for the purpose of transforming the mind.[2] In a narrower sense, Lojong refers to texts that focus on particular styles of meditation, and in this sense the term is sometimes retrospectively applied to Indian texts, such as Śāntideva's *Bodhicaryāvatāra*, that contain teachings considered of central importance to Lojong training as it emerged in Tibet. In the narrowest sense (and the sense in which the term will be used in this work), Lojong refers to a genre of literature that emerged through the writings of, and in the wake of, Atiśa Dīpaṃkara (982–1054).

In his anthology of texts from the Lojong tradition, *Mind Training*, Thupten Jinpa writes that the various etymologies of the term Lojong all point to "the salient idea of transformation, whereby a process of training, habituation, cultivation, and cleansing induces a profound transformation—a kind of metanoesis—from the ordinary deluded state, whose modus operandi is self-centeredness,

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[1] For an example of the variety of practices, see Thupten Jinpa's work [45].
[2] This claim is made repeatedly in Lam rim and Lojong works ([35,49]; [50], p. 23).

to a fundamentally changed perspective of enlightened other-centeredness ([49], pp. 1–2)." The first term in the name Lojong is the Tibetan word *blo*, which can be both more extensive and at the same time more specific than the English word "mind." It can relate to a single moment of cognition or to a single moment of subjective experience. More broadly, it can refer to the array of mental structures that condition and structure experience. Furthermore, since the second term, *sbyong*, refers to a complete transformation, the term Lojong can be understood as involving a "transformation of subjectivity," the goal of which is a complete reorientation of the person away from self-centeredness or "self-cherishing" (*bdag gces*) towards altruism or "other-cherishing" (*gzhan gces*). Artemus Engle notes how Lojong commentaries often use the term "develop a mental change" (Tib. *yid 'gyur skye ba*) ([50], p. 7).

As already noted, several contemporary compassion training interventions and protocols, including Cognitively-Based Compassion Training [11,36] Compassion Cultivation Training [12]; and others [37], explicitly point to certain Lojong texts as source material for their programs. There are a number of reasons, therefore, that justify a close examination of the key Lojong source texts especially within the context of contemplative science and the emerging dialogue between contemplative traditions (both traditional and secular, contemporary ones) and modern science. Dunne [13] enumerates several of these reasons, as will be noted later, but he also warns that contemporary readers should not necessarily assume that prescriptive texts, such as meditation manuals, necessarily describe practice as it is actually carried out in lived practice communities. He notes, "these sources are best engaged along with the practical expertise of an actual practice community. Texts ideally should be read in relation to the living practices of such communities, and those practices should likewise be studied independently of textual interpretations through methods such as ethnography" [13].

While the aims of mindfulness practices, at least as presented in contemporary mindfulness-based interventions, tend to be narrower in scope, the aims of compassion training practices such as CBCT and CCT explicitly set out to cultivate prosocial emotions that include not only compassion but also empathy, gratitude, endearment, and so on. This suggests that contemplative science could benefit from a closer dialogue with another emerging field, namely that of positive psychology. Connections between positive psychology and contemplative science are not difficult to draw: both have to do with the study of human flourishing and both are based on the premise that intentional effort can yield changes in psychological health. Furthermore, both see this process as not being restricted to a "medical model" of diagnosing and treating specific disorders through an intervention, but rather as having the potential to increase strengths beyond a current state. Fernandez-Rios and Cornes [51], for example, maintain that positive psychology "seeks to build intrapersonal and interpersonal resources not only for invulnerability but also for personal development and in the search for happiness." This, they note, "is related to the healthy regulation of cognition, emotions, and actions." This could easily be a description of the aim of many contemporary secular contemplative practices that are currently being studied in contemplative science.

Despite these obvious resonances, however, there has not been as significant a crossover in terms of academic research or conferences between the two fields as there should be, apart from the important work of a few individual researchers such as Fredrickson [52]. Although, as originally conceived, positive psychology included a strong normative, ethical, and social justice dimension, actual positive psychology has largely focused on positive emotions [53], the concept of "flow" developed by Csikszentmihalyi [54], meaning in life [55], and a small subset of virtues such as gratitude [56], forgiveness [57], and optimism [58], most of which are studied only at the level of the individual.

The lack of crossover between positive psychology and contemplative science may be a result of the fact that both are relatively new fields that are still in the process of establishing themselves. There are several specific ways the two fields could complement each other, however. The first is in the area of positive psychology interventions. From the beginning, positive psychology as a movement was interested not only in studying the factors that contribute to and characterize human happiness and well-being, but also the development of interventions that would strengthen

those factors. In a 2005 article entitled "Positive Psychology Progress: Empirical Validation of Interventions," Seligman et al. [59] report data from a study that examined five brief positive psychology "Internet-based interventions." The authors designed the five "happiness exercises" themselves, along with one placebo control exercise, to be engaged in for a time period of one week. The happiness exercises focused on building gratitude (writing and delivering a letter of thanks in person), increasing awareness of what is positive about oneself (e.g., by writing down three good things that happened that day, and their causes), and identifying strengths of character (e.g., noting one's character strengths and then using them more often for one week). Subjects were recruited via Martin Seligman's own website (www.authentichappiness.org) and then randomized to one of the six conditions. They were then delivered the intervention online, and were also assessed online. Seligman et al. reported that "Two of the exercises—using signature strengths in a new way and three good things—increased happiness and decreased depressive symptoms for six months. Another exercise, the gratitude visit, caused large positive changes for one month" ([59], p. 416).

According to Google Scholar (retrieved 22 June 2016), this particular article has been cited 3535 times. It is considered a landmark article in positive psychology, and is referenced overwhelmingly to show that positive psychology interventions can increase subjective well-being and decrease depression scores with effects that last up to six months. For several years, no one sought to replicate Seligman et al.'s [59] remarkable findings. In recent years, however, several studies have emerged that suggest that positive psychology interventions such as those developed by Seligman and his colleagues are far less effective than had been previously believed. Mongrain and Anselmo-Matthews [60] sought to replicate the study but with a less skewed sample. Seligman et al. had recruited subjects from his own website, many of whom had come to the website after having read his book, *Authentic Happiness.* With a less skewed sample and a better control condition alongside the positive psychology exercises (PPE), Mongrain and Anselmo-Matthews failed to replicate the study and concluded, "the positive placebo (positive early memories) produced effects that were as significant and as long lasting as those of the 'Three good things' and 'Using signature strengths in a new way' exercises ... In sharp contrast to the findings reported by Seligman and colleagues [59], the PPEs did not lead to significantly greater reductions in depression over time compared with the control group" ([60], p. 387). More recently, Woodworth [61] sought to replicate Seligman's findings for his doctoral thesis, but similarly concluded that "although all groups showed an increase in happiness levels and a decrease in depression levels over time, there was no differential effect between the PPEs and the control exercise" [61].

This is, of course, only one study and the attempts to replicate it, but it is one of the most cited and highly regarded studies in the area of positive psychology interventions. Reviewing the literature on positive psychology interventions more broadly does not yield a much more promising picture. The most comprehensive meta-analysis of positive psychology interventions to date [62] found small effect sizes and also found that interventions were "more effective ... if the study design was of low quality." The selection criteria used by Bolier et al. [62] were strikingly broad: all studies on positive psychology interventions since 1998 that had been published in a peer-reviewed journal, involved randomization of subjects, included statistics to enable calculation of effect sizes, and involved measuring either well-being, depression, or both. Nevertheless, the authors could find only 39 studies to include, of which few were of high quality. For example, only seven of the 39 studies employed randomization (allocation) concealment, whereby the allocation of the subject to one of the conditions is concealed from investigators until the subject is entered into the study. Assessing the quality of each study through a short scale of six criteria based on the Cochrane collaboration, Bolier et al. ([62], p. 119) determined that "Twenty studies were rated as low, 18 were of medium quality, and one study was of high quality. None of the studies met all quality criteria."

This suggests that positive psychology is a field that could benefit significantly from collaboration with contemplative science. In contrast to positive psychology interventions, which generally take a few minutes to complete, and which are not typically grounded in a rich theoretical framework, the interventions studied in contemplative science are of significantly greater complexity and intensity.

Although research in contemplative science is still at an early stage, the reported effects of sustained engagement in contemplative practices and secularized protocols that have been developed out of contemplative traditions (such as Dialectical Behavioral Therapy (DBT), Mindfulness-Based Cognitive Therapy (MBCT), and so on) currently overshadow those obtained through positive psychology interventions. It is true that contemplative science itself is a young field, and many published scientific studies of contemplative practices are also not of the highest quality, especially studies in real-world settings such as schools [63]. Nevertheless, there is a growing body of research in the scientific study of contemplative practices that would complement research in positive psychology.

A second area of potential cross-fertilization is in the area of constructs to be studied. Although recently some in the field of positive psychology have turned to "love" [64], positive psychology has largely ignored "compassion" as a construct, in favor of focusing on other emotions and virtues, including optimism, gratitude, humility, and forgiveness. For example, in Bolier et al.'s [62] meta-analysis, only one of the studies included in the analysis involved an intervention that dealt with compassion, love, or self-compassion. Nevertheless, although even just a few years ago it would have been premature to speak of a "science of compassion," the scientific study of compassion has advanced quickly in just the past decade, with major annual conferences now dedicated to the scientific and interdisciplinary study of compassion (e.g., the annual "Science of Compassion" conferences held by Stanford's Center for Compassion and Altruism Research and Education). This has occurred, however, in the emerging field of contemplative science, and not in positive psychology, although there are exceptions, as in the case of Dutton's work on compassion in organizations [65].

Psychology and neuroscience as disciplines did not arise for the purpose of studying contemplative states or traits, nor are they particularly well suited at present for studying the types of prosocial emotions that are often cultivated in contemplative traditions, such as gratitude, forgiveness, or compassion. As psychologists and neuroscientists attend to contemplative traditions, they come into contact with constructs that either do not exist in their existing lexicon, or that exist in distinctive ways.

One example is compassion itself. Although one can now speak of a small but emerging "science of compassion" (Stanford now hosts a biannual conference of that name), the actual construct studied in the neuroscience and psychology of compassion is interesting, in that its definition is not taken from Western thought, but from Buddhist thought, and most recently, as has been stated, from the approaches to compassion presented in the Lojong tradition. In other words, science is approaching an emotion—in this case compassion—that is presumed to be universal, but remarkably the definition is not taken from a Western tradition but from Buddhist conceptualizations of compassion. It is possible that there are precedents for this, but it would appear to be not very common; more commonly, psychology and neuroscience have taken Western conceptualizations of emotions and universalized them to non-Western cultures.

This could lead to some interesting further discoveries. For example, one of the qualities to be cultivated in Lojong practice is *bzod pa* in Tibetan or *kṣānti* in Sanskrit—commonly translated as patience, but also with the meanings of forgiveness, forbearance, tolerance, and the ability to withstand suffering. Interestingly, there is no English word for this concept, nor does there appear to be any psychological research examining it. The lists of positive emotions and character strengths and virtues created by the new field of positive psychology does not include this characteristic, which suggests that the positive psychology lexicon may be expanded further to emerge more fully from its culturally embedded origins. In Buddhism, however, the cultivation of *bzod pa* is extremely important, since it represents the ability to not respond with anger towards a person or situation. It is one of the six "perfections," and Śāntideva famously devotes an entire chapter to it and methods to cultivate it. Interestingly, Arabic and the early Islamic tradition has a very similar concept, called *hilm*, and the Japanese language has the terms *gaman* and *nintai*, which trace their origins back to Zen Buddhism.

If this is a characteristic that we find across religious and contemplative traditions, and if it is considered of great importance to spiritual and contemplative development, then it could be an object of study in contemplative science. Contemplative science in fact gives us an interesting avenue

through which to study such constructs empirically. This could therefore be an exciting avenue for contemplative science and a potential area for contemplative science to contribute to scientific knowledge more broadly about constructive prosocial emotions and traits, because the scientific study of such traits that we do not yet have words for in English would enrich our conceptual understanding and our lexicon of mental emotions and mental processes.

In addition to strengthening interventions [62] and the exploration of new constructs to study, there are other ways in which contemplative science can make a significant contribution to positive psychology and related disciplines. For reasons of space, these will be only briefly outlined in the present article.

Ethics and social benefit: Despite having its origins in an ethical and normative orientation, positive psychology has lacked a theoretical framework for the relationship between individual well-being, flourishing, or happiness, on the one hand, and social good, on the other. While contemplative science has also been more focused on the individual than the social implications of contemplative practice, and has also addressed ethics only tangentially, this has shifted in recent years as scholars in contemplative science have attended more to compassion-based interventions. Contemplative traditions themselves, such as Lojong, are rooted strongly in an ethical framework and a conception of the relationship between individual and social good, and can thereby be of potential assistance in this regard. If contemplative science is supplemented or conjoined with secular ethics, which will be explored below, then this contribution can be significant indeed.

Accounting for religion and spirituality: While acknowledging that religion and spirituality play a central part in people's lives and conceptions of well-being, positive psychology has struggled greatly to find a place for this in its theoretical models. Since contemplative science centers around the scientific study of secularized contemplative practices that originate from religious traditions (and often non-Western religious traditions), it may be able to help positive psychology differentiate those aspects of religion and spirituality that contribute to well-being, and those which may be detrimental to it. It may also help positive psychology develop a richer set of understandings with regard to what "well-being" is, and how it may be variously conceptualized and manifested in lived experience.

An expansion of what constitutes "meaning in life": Perhaps because of its lack of deep attention to religion, spirituality, ethics, and social consciousness, the construct of "meaning in life" in positive psychology remains individualistic and goal-oriented, and therefore relatively underdeveloped when compared to contemplative traditions such as Lojong [55].

A more nuanced understanding of emotions: Instead of categorizing emotions on the basis of positive or negative affect, as many associated with positive psychology do [53,66], contemplative traditions such as Lojong focus on whether the emotion brings long-term benefit to self and others, i.e., whether it is constructive or destructive. Sadness, for example, involves negative affect but is not necessarily destructive. Happiness, while categorized as a positive emotion in terms of affect, is not constructive in this sense if it arises due to inflicting pain and suffering on others.

Greater attention to embodiment: Apart from the research on flow [54], positive psychology has largely treated happiness, well-being, and flourishing as if they were independent of the body and bodily processes. This needs to be remedied, and contemplative practices, which often focus on issues of embodiment, may be of help here.

A more sophisticated accounting of consciousness: Despite the emphasis on subjective well-being, positive psychology has not addressed the difficult issues of consciousness the way contemplative science has attempted to (even if the latter has not succeeded fully in this difficult task). Issues such as neurophenomenology and the nature of consciousness, for example, are not even on the table in most discussions of positive psychology, despite the fact that they could contribute significantly to the positive psychology enterprise. They are at least thematized in contemplative science, albeit incompletely at the present time.

Attention to the centrality of compassion: Positive psychology has, as of yet, devoted insufficient attention to the construct of compassion, which is widely viewed as the ethical virtue *par excellence*,

due to the fact that it focuses specifically on the central ethical dimension of care and harm [67]. Furthermore, compassion is quickly becoming a topic of increasing interest in a variety of fields. One popular assessment of strengths and virtues, designed by Peterson and Seligman [68], does include "love," "kindness," and "forgiveness and mercy" among its catalog of 24 traits. Yet while forgiveness has indeed received sustained attention [57], the other areas of love, kindness, and mercy have been comparatively ignored, compared to topics such as gratitude, meaning, positive emotions, and flow. A notable exception is Fredrickson's [64] study of love. However, Fredrickson defines love as "positivity resonance" or shared micro-moments of positive emotion [64]. This is a somewhat reductionist account of love, however, because it unmoors love from any clear connection to long-term relationships and commitments, morality, and social good. Fredrickson's "love," therefore, is quite different from compassion.

In the contemporary interdisciplinary scholarship on compassion, compassion is typically broadly defined as a deep feeling of wishing to alleviate the suffering of others [69,70]. Despite some variation in this literature, a broad consensus is emerging regarding specific dimensions of compassion, at least as studied in the contemporary scientific community and the disciplines of social neuroscience, and clinical and cognitive psychology. The works of Ekman [71], Gilbert [69], Lutz et al. [21,29], Neff [33], and Singer and Bolz [7] show that despite a variety of conceptualizations of compassion, there is broad consensus that compassion involves the following aspects: a cognitive aspect (recognizing suffering in oneself or another), an affective aspect (a sense of concern or affection for the other), an aspirational or motivational aspect (one wishes to relieve the suffering of the other), an attentional aspect (one's degree of immersion and focus), and a behavioral aspect (a compassionate response or an action that stems from compassion). One of the advantages in the area of compassion research is that it involves an extended network of researchers from a variety of fields. This can be seen in the volume *Compassion: Bridging Practice and Science*, edited by Singer and Bolz [7], which draws together contributions from researchers in psychology, neuroscience, religious studies, philosophy, medicine, and other disciplines, and which arose from a working conference in which most of the volume's contributors participated. The importance of compassion can be seen more clearly in the context of secular ethics.

6. Secular Ethics

As mentioned, of key importance in the emerging field of contemplative science is the relationship between contemplative practices and their broader ethical framework. Contemplative practices are almost always taught within an implicit or explicit ethical framework, and are often explicitly oriented towards a cultivation of ethical sensibility, yet the secular demands of contexts in which they are employed—be it hospitals, psychotherapeutic settings, or schools—pose questions regarding how to address this ethical dimension. This is because individuals who belong to a particular religious tradition may not accept an ethical framework that is derived from a different tradition. Parents, for example, may be concerned about allowing their children to be taught an ethical orientation that is based on a foundation different from their own position on religion. In the public sphere, therefore, what is required is a language around ethics that can serve as a common ground for people of diverse orientations.

"Secular ethics" in this context is the idea of a shared set of values and principles that are based on common sense, common experience, and science, and that are founded on the two "pillars" of our common humanity, rooted in our common wish for happiness and to be free from suffering, and our experience of interdependence [72]. Secular ethics may provide an important way forward for contemplative science to be able to recognize and legitimately claim an ethical orientation that is implicit in the project while remaining properly scientific, academic, impartial, and disinterested. How this apparently paradoxical solution can be achieved is explored in this section.

The present Dalai Lama of Tibet, Ven. Tenzin Gyatso, has been a participant and supporter of the emerging field of contemplative science, frequently engaging in dialogues with contemplatives

and scientists on topics such as the scientific study of meditation and the nature of emotions and their regulation [73]. He has only authored one work himself directly on the topic, entitled *The Universe in a Single Atom* [74]. In it the Dalai Lama rejects scientific materialism and differentiates strongly between that position, which he considers a metaphysical and philosophical position, and the project of science, which is based on an empirical approach [74]. At the same time, he pays respect to science and contends that Buddhist theories that have been rendered obsolete and untenable by scientific advances in knowledge should be abandoned, even by believers. He raises interesting points regarding Buddhist approaches to the study of mind and consciousness, but does not present these positions as "truths" discovered by millennia of contemplative adepts, but rather as prospects for interesting lines of future research and dialogue.

One of the reasons why the Dalai Lama is able to navigate between these metaphysical extremes is his commitment to a pragmatic approach to science and spirituality, which sees both as "seeking ... truth" and as ultimately deriving their purpose from their ability to contribute to human well-being:

> I believe that spirituality and science are different but complementary investigative approaches with the same greater goal, of seeking the truth. In this, there is much each may learn from the other, and together they may contribute to expanding the horizon of human knowledge and wisdom. Moreover, through a dialogue between the two disciplines, I hope both science and spirituality may develop to be of better service to the needs and well-being of humanity [74].

Such an approach is very helpful in steering contemplative science away from metaphysical quagmires, but it becomes even more powerful when combined with another contribution the Dalai Lama makes, namely his approach to "secular ethics." This approach is mentioned in *The Universe in a Single Atom* (it resonates in the quote above with the words "service to the needs and well-being of humanity"), but it is much more fully elaborated in another of the Dalai Lama's works, *Beyond Religion* [72].

In *Beyond Religion*, the Dalai Lama ties the project of contemplative science, which he leaves largely to the second half of the book, to the idea of "secular ethics," which comprises the first half of the book [72]. *Beyond Religion* and the Dalai Lama's approach to secular ethics in general are of great importance because they tackle head-on the question of whether it is possible to establish the project of contemplative science free from the metaphysical assumptions that divide individuals and groups. Nevertheless, the presentation is made in simple language and without citations, so a reader who merely gives this book a cursory look may not see the positions that the Dalai Lama is taking up vis-à-vis important and well-established debates in philosophy and psychology.

It is helpful, therefore, to elucidate some of those debates. In a very interesting critique of the idea of "secular ethics," presented in several op-ed articles for the *New York Times*, but most notably one entitled "Are There Secular Reasons?" [75], noted literary theorist Stanley Fish contests that secular reasoning alone—including science and the gathering of empirical evidence—can never yield grounds for ethical decision-making. The argument is a familiar one and can be traced back to Hume and the distinction between fact and value that emerged along with modernity: data alone cannot yield sufficient grounds for reaching a decision when faced with an ethical dilemma; ultimately one must decide on the basis of values, and those values will be predicated upon a prior metaphysical commitment that itself cannot be justified purely by appealing to other data. He approvingly cites Alasdair McIntyre, writing that secular discourse consists "of the now incoherent fragments of a kind of reasoning that made sense under older metaphysical assumptions," and Augustine's observation that "the entailments of reason cannot unfold in the absence of a substantive proposition they did not and could not generate" [75].

This would seem to create an obstacle for the Dalai Lama's attempt to establish a "secular ethics" based on common sense (reason), common experience (empirical observation), and science, rather than religious or ideological belief [72]. One way out would be if one could provide a "substantive

proposition" on the basis of these secular sources that was itself non-metaphysical. The Dalai Lama does provide such a proposition, and interestingly it is drawn directly from the Lojong tradition. Although the proposition appears in many places, one quote can suffice from the Sakya scholar Gorampa, who writes in his brief Lojong text "An Instruction on Parting from the Four Clingings":

> Just as I desire happiness, so too do all sentient beings; therefore, just as I pursue my own happiness, so must I seek the happiness of all beings. Just as I shun suffering, so too do all sentient beings; therefore, just as I alleviate my own suffering, so must I alleviate the suffering of all beings. Meditate in this manner ([49], p. 536).

The instruction here is for the purpose of equalizing self and others, a key Lojong practice that precedes the practice of exchanging one's own and others' happiness and suffering. This same sentiment appears in numerous Lojong texts, and it appears numerous times in the Dalai Lama's work on secular ethics, *Beyond Religion* [72]. In the first chapter of the book, he enumerates "two pillars for secular ethics," the first of which is "the recognition of our shared humanity and our shared aspiration to happiness and the avoidance of suffering" ([72], p. 19).

It is perhaps ironic that Fish cites Augustine, since Augustine also accepted as fact that all people desire happiness, although he disagreed with the Epicureans regarding the implications of this fact ([76], pp. 210–11). What is interesting about the Dalai Lama's claim is that it rests on an appeal to common sense and common experience. Rather than a proposition to be proved or one that must rest upon other claims, it is taken to be self-evident and therefore non-metaphysical. It therefore functions as axiomatic, and this is the key to addressing Fish's critique. What is important to recognize is that it is not necessary to label this axiomatic claim as *fundamentally* true, which would render it metaphysical; it is enough if it is established as self-evident through consensus. This renders the foundation of the ethical theory empirical in nature.

The function of the claim is related, yet distinct, in the Lojong tradition itself. There, it functions to create a basis for creating a sense of equality and sameness between self and others, but for the Dalai Lama in the context of secular ethics, it does this and more, because it also functions as the basis for an entire ethical system. It becomes, in his words, a "pillar" for "secular ethics" [72]. It does double duty: it is a way to cultivate compassion but also an axiomatic claim that can serve a philosophical purpose.

It must also be noted that this approach of secular ethics prioritizes a particular dimension. Moral psychologists Graham and Haidt, in numerous publications, have outlined five foundations for morality based on cross-cultural research, the first of which is care/harm [77,78]. These describe dimensions that are called upon as foundational in the moral reasoning and intuitions given by individuals in different cultures and societies. Secular ethics centralizes the harm/care dimension of morality as key. Of the other four—justice/fairness, hierarchy, ingroup, and purity—the Dalai Lama either disregards, contextualizes, or actively undermines them as proper moral foundations for a secular ethics. Contextualization is the approach he takes for the most important of these other foundations in his eyes: that of justice and fairness. He devotes a chapter of *Beyond Religion* to the topic of justice and fairness, entitled "Compassion and the Question of Justice." Here he acknowledges that some might disagree with his placement of compassion (which reflects the care/harm dimension) as the foundation for secular ethics, writing: "As they see it, the principle of justice or fairness, rather than that of compassion, must underpin any humanistic approach to ethics" ([72], p. 57). Much of the chapter is devoted to reframing the question of justice so that it aligns with the Dalai Lama's understanding of compassion. He argues for a "broad" conception of justice against a "narrow" one, and concludes by saying, "Indeed, in my understanding the very concept of justice is itself based on compassion" ([72], p. 70). As for the other categories given by Graham and Haidt, "ingroup" is clearly a moral foundation that is problematic in his eyes, as he argues for a universal compassion that is unbiased and unrestricted. We see in Chapter three how this forms a fundamental dimension of the cultivation of compassion in the Lojong tradition. The dimension of "purity" does not seem to be a proper moral foundation for secular ethics either, and is not mentioned much in the Dalai Lama's

writings or speeches. Lastly, "hierarchy," like "ingroup," appears to be undermined in the Dalai Lama's approach by the insistence upon the fundamental equality of all human beings and the corresponding stress on human rights [72].

By resting his ethical system on the axiom of the fundamental and universal wish for happiness and to avoid suffering, and by thereby centralizing the harm/care dimension of ethics, the Dalai Lama can then argue that compassion is the fundamental virtue for ethics and well-being. This is because, as we have seen, compassion is the wish to alleviate the suffering of others, which is corollary to wishing that they have happiness. As such, compassion also acts as preventative against inflicting suffering on others. The presence or absence of compassion can therefore be seen as of great ethical importance. Compassion plays a further role also. Since compassion is fundamentally interpersonal and prosocial, it acts as a force to connect human beings together. Research on the relationship between warm relationships and happiness suggests that if compassion strengthens close and warm relationships then this strengthening itself, even apart from the actual alleviation of suffering, would be conducive to happiness [79]. As Saphire-Bernstein and Taylor ([80], p. 821) write, "Social relationships have long been considered one of the strongest and most important predictors of happiness . . . Empirical evidence that relationships are tied to happiness is plentiful."

The Dalai Lama's approach may have the greatest chance of leading to a sound foundation for the new field of contemplative science. There are a few reasons for this. First, it not only navigates between the divides of materialism and non-materialist metaphysics, but it also provides a constructive way of solving certain challenges related to metaphysics, as presented by Fish. Second, it ties the contemplative science project to ethics. It does so not only in a general way, but also by providing a very specific approach to ethics that centralizes the care/harm dimension as a moral foundation, and therefore compassion as the cardinal moral virtue. Since compassion is itself a moral emotion that can be cultivated through contemplative practice, this provides a powerful connection between secular ethics and contemplative practice on multiple levels. Lastly, the Dalai Lama's approach brings together in an elegant way a number of related fields and areas of study. By showing the relationships between social relationships, happiness, compassion, ethics, contemplative practice, empirical observation, and reason, the Dalai Lama provides a way of integrating fields such as psychology (especially social, cognitive, and positive psychology), neuroscience, ethics, and contemplative practice together in a coherent way that can provide the basis for a robust contemplative science.

Contemplative science will be best served if it includes both a broader array of contemplative practices, including analytical meditative practices such as those provided by the Lojong tradition, and that attends to the importance of resolving key issues regarding ethics and religion. Without incorporating a wider range of practices and an attention to the ethical dimension of these practices, the field could be limited, and could even potentially be undermined. Not broadening the approach to practices would tie contemplative science too closely to the particular issue of mindfulness and mindfulness-related research, which would be unfortunate. Not addressing the implicit ethical and religious dimensions of contemplative practice would limit the field and also potentially damage it should it come under criticism for promoting values inconsistent with the religious and ethical orientations of specific religious or non-religious groups. Moreover, as the field of contemplative science matures, we are beginning to recognize that contemplative practices are diverse and that one practice cannot be a panacea for the ills that afflict all individuals; on the contrary, it is likely that certain practices are counter-indicated for certain individuals in certain circumstances. While research on the adverse effects of engagement in contemplative practices is still nascent, this will be an important area for contemplative science, as will the increasing tailoring of specific practices to certain populations, such as those who are affected by trauma. It is hoped that further research and discussion of these issues will take place in a manner that incorporates a wider array of practices and pays attention to the question of secular ethics, and that eventually a consensus will emerge that can propel this promising new field further.

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