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Secular Ethics, Embodied Cognitive Logics, and Education

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The Dalai Lama's model of secular ethics not only makes possible an understanding of contemplative practices within a wider ethical framework, but also helps to illuminate the important question of the relationship between contemplative practices and the religions within which they developed. This article explores that question and proposes an approach to the study of contemplative practices that examines the diachronic and synchronic relationships among embodied cognitive states and the "embodied cognitive logics" inherent in the theories and practices of contemplative traditions. Since secular ethics looks to common experience, common sense, and scientific findings, rather than metaphysics or religion, to ground ethical virtues and decision-making, recognizing that such virtues and prosocial emotions correspond to common embodied psychological realities can help us to understand how we can implement practices that enhance such virtues in secular educational settings.

Keywords: *compassion, contemplative practice, education, embodiment, grounded cognition, meditation, psychology, secular ethics*

The growing interest in contemplative practice and in the scientific study of contemplation is perhaps one of the most exciting developments of recent times, particularly when regarded within the context of recent discoveries in the psychological, cognitive, and neurosciences. Research in the areas of neuroplasticity, neurogenesis, and psychoneuroimmunology has changed our understanding of the mind-body connection and our potential to affect our brains, our bodies, and our psychological and physical health. This in turn has the opportunity to affect our very understanding of what it means to be human beings, both individually and collectively.

Indications that we can effect change in our bodies and minds in scientifically measurable ways, and in ways that promote health, has led to an increased interest in all manner of contemplative practices, and for the first time in history we are seeing contemplative practices, which have historically almost always been restricted to a select few, entering the mainstream of society.

For the current interest in contemplative practices to bear its greatest fruit, and for it to genuinely take root in society, the introduction of such practices into education could be most beneficial. In this article, I examine some emerging trends

in the rise and scientific study of contemplative practices in modern societies, and argue that we will be best served if we take a broad approach that includes attention to dimensions of contemplative practice and contemplative life that have up until now remained at the margins. By a broad approach, I mean attending to a wide array of practices, such as analytical forms of meditation and those that seek to cultivate certain values and virtues like compassion. I also mean attending to the mechanisms that underlie contemplative practices and not merely their effects. I therefore look first at the question of contemplative practices within the context of secular ethics, and argue that this approach—one proposed by His Holiness the Dalai Lama, among others—allows us to harness much more of the potential of contemplative practices because it places such practices within a wider social and ethical framework, and also because it helps us to think through the difficult yet important question of the relationship between contemplative practice and religion. Without addressing this question, we face one of two undesirable scenarios: either we will have to introduce contemplative practices in a way that is fully divorced from their ethical basis, which will greatly limit the types of practices we can engage in, or we will have to teach contemplative practices only as religious practices, which will make them unsuitable for most of the public domain, including public education.

Secondly, I propose an approach to the interdisciplinary study of contemplative practices that takes seriously the importance of the body and the relationships between embodied cognitive states both synchronically and diachronically, a model that I call "embodied cognitive logics." Although a secular ethics approach can draw from all religious and philosophical traditions, it is best served if it also draws from scientific understandings of the mind and body. Recognizing that virtues and prosocial emotions are not merely religious and ethical phenomena, but also correspond to embodied psychological realities helps us to understand how we can implement contemplative practices that enhance those virtues and emotions in educational and public settings.

Secular Ethics and Education

In 2010 I had the rare opportunity of making a presentation to His Holiness the Dalai Lama on the introduction of compassion training in an elementary school setting. The protocol our research team used, called Cognitively-Based Compassion Training (CBCT), was developed by Geshe Lobsang Tenzin Negi at Emory University, and is based on the Lojong (Tib. *blo-sbyong*) or "mind training" tradition of Tibetan Buddhism. It employs analytical meditation alongside stabilizing meditation to cultivate systematically the ingredients that lead to sustainable, unbiased compassion (Ozawa-de Silva & Negi, 2013). A number of research studies have now indicated that this form of analytical meditation practice has measurable psychological and physiological benefits, including improved immune response to

psychosocial stress and an increase in empathic accuracy (Desbordes et al., 2012; Mascaro et al., 2013; Pace et al., 2009, 2010; Reddy et al., 2013). While some forms of contemplative practice are less normative and might be considered more "neutral" with regard to ethics and values, CBCT explicitly focuses on the cultivation of moral emotions like compassion, gratitude, and forgiveness through both stabilizing meditation (such as mindfulness of the breath) and logical analysis and analytical meditation (Ozawa-de Silva et al., 2011, 2012). Its complementary use of both mindfulness and logical analysis lends itself to educational settings, but it also raises the question about teaching ethics in the public sphere, where education must be secular.

When my colleagues and I asked how one might go about introducing ethical contemplative practices into education, the Dalai Lama noted the centrality of compassion as a value that should be taught and cultivated, and indicated that there were both theistic ways of cultivating it, such as by totally submitting to God and thereby reducing one's self-centered attitude, as well as non-theistic ways, such as those employed in Buddhism, whereby the law of cause and effect is employed to teach one the necessity of not harming others. Beyond this, however, he said:

> Now there should be a third way, a secular one. This theistic way will not be universal. So we now need a universal approach. There is no other alternative except for a secular way. So even if someone does not like secularism, you still have to follow that. That is my view. Secularism is very broad. You can take some from Buddhism, some from Christianity, some from Islam—if there's something suitable there, then you can take it. But mainly it is based on scientific research. A secular approach can definitely be possible. It is the only way.[1]

The vision of secular ethics in education is therefore one that brings science and religious traditions together, rather than seeing them as diametrically opposed; therefore, it is respectful to religious and non-religious approaches. In that case, one might ask what makes "secular ethics" secular. One response would be that whereas religions appeal to revelation, tradition, authoritative texts, authoritative persons, or metaphysics to justify the virtues and precepts that they hold to be ethical, secular ethics appeals to secular, non-religious reasons: scientific evidence, common experience, and common sense. Secular ethics cannot appeal to those other sources, because they are not universally shared, but rather specific to each religious tradition. Yet the conclusions that both secular ethics and religious ethics arrive at—by different means, and appealing to different sources—may look remarkably similar. While religions appeal to their own authoritative sources to

1 "Compassion Meditation: Mapping current research and charting future directions," Emory University, October 18, 2010. Video available at http://www.youtube.com/watch?v=GvFfn59BEzM&feature=relmfu.

justify the importance of compassion, forgiveness, generosity, and other virtues, secular ethics may also arrive at the importance of those same values, yet it does so by appealing to scientific and common sense reasons. To this, some might object that ultimately secular ethics too must rest on a metaphysical bedrock, which would make it also covertly ideological or even religious.[2] This need not be the case, however, as there are shared experiences we can agree upon that do not require metaphysical assumptions. One that the Dalai Lama frequently cites is the fact that we all wish for well-being and happiness, and wish to avoid suffering. If we reflect upon this and accept it as axiomatic, this simple observation can serve as a basis for an ethics of compassion, especially as a universal feature of ethical systems is the dimension of care and harm (Ozawa-de Silva, in press).

Since ethics and religion have been so closely coupled throughout much of human history, succeeding in such an undertaking may require a reconceptualization of what religion actually is, and how it relates to our bodies and minds. Recently, there has been a rise of cognitive theories of religion and in the "cognitive science of religion" (Barrett, 2004; Boyer 1996, 2001; Guthrie 1996; Lawson & McCauley, 2002; McCauley, 2011; Slingerland, 2008). These attempts, which have largely concentrated on ritual and belief in supernatural agents, have not yet fully mined the relationship between religion and cognitive sciences, however. In line with the above comments by the Dalai Lama, my interest here in cognitive science and its application to the study of religious traditions and religious practices is neither to promote a perennialist approach nor to support the idea that a particular type of cognition underlies or explains religious behavior and beliefs. Rather, it is to investigate how contemplative practices can be applied in a secular way outside their original religious context and still promote changes in cognition, affect, and behavior. I propose that this is because contemplative practices call upon "embodied cognitive logics" that are cross-cultural in applicability, and that such processes are not dependent upon, and do not require acceptance of, the metaphysical and philosophical tenets of the religious traditions they stem from in order to have at least

2 Stanley Fish, for example, claims that secular reasons are impossible because they must always rest on a priori metaphysical claims or assumptions about reality (Stanley Fish, "Are There Secular Reasons?" *The New York Times*, February 22, 2010). He does not consider that they could be simply based on commonly facts—that is, facts taken for granted or seen as axiomatic by both parties. The idea that we all want well-being and happiness, and do not want suffering, plays this axiomatic role in the Dalai Lama's articulation of secular ethics. This provides a basis for secular ethics that actually non-metaphysical, because it is rooted in commonly accepted experience.

some salutary effects.[3] I mean here not "logics" in the sense of formal logic, but in the sense of rational principles and ordered relationships, harking back to the concept of *logoi* employed in ancient Greek spiritual practices and philosophy. Attention to such embodied cognitive logics may help us to understand better those aspects of religion which deal with cross-cultural existential and psychological realities, although they may be expressed in particular ways unique to a given religion, and may help us as scholars and as a society to recognize the power of practices and ritual in effecting changes in the body and mind, in line with contemporary research in cognitive psychology and cognitive neuroscience on embodiment effects (Barsalou et al., 2003).

Much scholarship on religious practices assumes that such practices are religiously or culturally specific and therefore efficacious only for members of that particular cultural or religious group. Following Levi-Strauss's (1963) work on magic and shamanic healing, and subsequent investigations, anthropologists and religious studies scholars may hold that religious and healing practices are effective for those who participate in a given symbolic world ("believers"), but are ineffective or inapplicable to those who do not ("non-believers"). Indeed, research on the placebo effect or what Daniel Moerman calls the "meaning response" can be seen as supporting this idea that much of the healing power of ritual interventions comes from socially constructed meanings and therefore varies across cultures (Moerman, 2002).

Nevertheless, a recognition of cross-cultural variability should not necessitate a rejection of shared meanings and processes across cultures, and in fact an acknowledgment of the mind/body relationship and the close connection between the body's sensory modalities and our higher cognitive processes pushes us in this very direction. More attention needs to be paid to the ways in which religious and contemplative practices employ embodied mechanisms that are shared cross-culturally. This is difficult, because it may require tracking a practice as it moves across

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3 Jensen notes the pendulum swing in the study of religion away from the formerly problematic approaches to "universals" and comparisons that had characterized early anthropological work on religion to the increasingly specialized and highly contextualized study of religion now predominant in religious studies. However, he defends the importance, and indeed inescapability, of universals in the study of religion, and notes, "Recurrent behavioural phenomena may be termed 'universals' on condition that they do exhibit universals in the sense of properties and relations. In fact, most recurrent forms of behaviour do so, but it is important to stress that it is not the behaviour as such that is 'universal' but aspects of it—and, again, with certain properties and relations… Although 'higher-level' behavioural features, say culture-specific institutions, may require lower-level, e.g. cognitive, explanations to account for their existence and functions, they do not 'disappear' as a result of being so explained… Thus, the ontology of social and cultural entities is not threatened by the fact that they may be explained as the results of cognitive phenomena and functions. And this also affects the issue of universals, for they may 'exist' ('literature' or 'text') irrespective of what the subject matter may be reduced to ('paper' and 'ink blots')." (Jensen, 2001, p. 244) This suggests the possibility of multiple, complementary levels of analysis that allow for recognition of both the particulars of each tradition and contextualized universals across a set of traditions.

cultural, religious, and geographic boundaries, meaning that one would have to understand its original context(s) as well as the context into which the practice has been transplanted, and one would also have to be sensitive to the ways in which the practice itself has changed as a result of this transplantation. Secondly, and just as importantly, one would require tools with which to study the "efficacy" (however defined or measured) of the practice as compared across its original and its new context. There are, however, a growing number of opportunities for just this kind of study. The secularization and scientific study of contemplative practices taken from the Buddhist tradition is one clear example.

There is a rapidly growing literature in the scientific study of meditation, most of which deals with secularized practices. What is at stake in the secularization of practices, and what does it even mean to secularize a religious practice? We cannot answer this question adequately without recognizing how the dividing line between secular and religious is not clear, because both terms themselves are not given, but are constructs of history and culture, and therefore their definitions vary across historical and cultural contexts. For some, religion "refers to a distinctive, nonreducible aspect of human life" (Schilbrack 2005, p.437). Religious symbols and religious experience are irreducible, according to this view, and do not refer to things of this world. It is hard to employ such a view analytically, however, because although experiences may be interpreted as religious, they are also often open to alternative interpretations. Reducing religion to a single aspect, such as belief in supernatural agents, as some cognitive scientists do, is clearly overly reductionist (Boyer, 1996, 2001; Weeks et al., 2008). At the same time, saying that all religious phenomena constitute an absolute break from this world also seems a problematic position.

Many of the claims made by contemplative traditions, however, are not claims about a separate spiritual realm, but about the nature of bodies and minds; they are not supernatural, but rather very much related to the natural, observable world—that is, if we include thoughts and emotions as part of that phenomenally "observable" world. Teachings on the nature of emotions, on the momentariness of phenomena (impermanence), or how all things arise in dependence on other causes and conditions (interdependence) do not require faith in the supernatural, and are amenable to scientific and rational investigation. Should they withstand such investigation, then the mere fact that they originated in a religious tradition should be no reason to refuse them the status of commonly shared knowledge. This has clear implications for bringing such knowledge into educational settings, and if we do not examine this point closely, we will suffer from confusion with regard to whether we are teaching religion or not. If we can clearly see that the states of mind that are being cultivated, such as compassion or familiarization with interdependence and impermanence, are not in and of themselves religious, then we can be clear that the practices that lead to such states need not be religious either.

In his book *Beyond Religion: Ethics for a Whole World* (a book he originally wanted to title *Secular Ethics*), His Holiness the Dalai Lama sets out his case for rethinking the notion of secularism to mean impartial respect for religious and philosophical systems. In India, he notes, secularism does not mean a rejection of religion, but rather an impartial respect for groups of all religious viewpoints, including non-believers. Out of this atmosphere of respect can develop an acceptance of basic human values that are shared by diverse members of the community. These values can then be promoted in society, and even taught in schools, in a way that is non-partisan and respectful to all. When it comes to enunciating how one would teach such values, the Dalai Lama points to the practices employed in contemplative traditions for developing "ethical mindfulness," awareness, heedfulness, compassion, and altruism.

In works like *Beyond Religion* and the earlier work *Ethics for the New Millennium*, as well as in his public talks, the Dalai Lama appears to use the terms "secular ethics," "basic human values," and "spirituality" interchangeably. The equation of spirituality with secular ethics may puzzle us at first, but makes good sense upon investigation. The sociologist of religion Nancy Ammerman has found that an "ethical spirituality" of compassion is one of the four main ways in which people understand the term spirituality, alongside ideas of spirituality that involve transcendence or relationship to a higher being (Ammerman, 2013). Furthermore, we must remember that "secular" in the Dalai Lama's sense does not mean *anti-religious*, but rather *impartial with regard to religion*. Secular ethics therefore does not need to refer to the lowest common denominator across religious traditions, but can involve a robust sense of spirituality and the development of the whole human being.

Embodied Cognitive Logics

One of the great strengths of contemplative traditions is that they approach the cultivation of ethical virtues through the use of practical techniques of self-transformation. Whereas religions in general may teach the importance of values, such as compassion, on the basis of injunctions ("Be compassionate" or "Do not steal") and through the formation and bonds of community and communal rituals, contemplative traditions focus on effecting a deep inner transformation through sustained, individual practices that employ specific techniques that function as individual rituals. Communities remain important, but they are primarily communities of contemplatives, who separate themselves from wider society (either permanently or for a time) in order to grow spiritually through proficiency in these specialized techniques (Merton, 1960), techniques involving what Foucault called the care of the self, or the fashioning of the self (*souci de soi*) (Foucault, 1998). Indeed, a contemplative practice can be seen as any sustained practice that is intended to lead to a restructuring of subjectivity towards spiritual development (understood in a specific religious sense, or simply an ethical sense). Typically, this process is seen

as involving a very deep level of deconditioning, and therefore a time-intensive engagement with such practices, which is perhaps why contemplation has always remained a minority practice in every major religion, even in religions closely identified with it, such as Buddhism. Yet as a result of their relative isolation and intensive practice, contemplatives in various traditions developed what they considered to be bodies of knowledge regarding these teachable techniques that could allow for powerful inner transformation.

If these techniques could be brought into education, the results could be remarkable. A great number of universities, colleges, and schools subscribe to vision and mission statements that speak of an education of character and intellect, an education of the whole person, an education that instills values in students. Too often, however, such educational institutions have difficulty in finding ways to practically instill these values in their students, whether in the classroom or through other activities. When one looks at the actual experience of a student, the majority of their time may be spent in a fairly traditional way: attending classes, doing homework, taking tests, and so on, with very little active engagement in activities that would strengthen their ethical or spiritual development. The university or school may believe that its "ethos" is somehow imparted to every student who goes through the institution, or may claim that its faculty and staff embody the qualities that they seek to impart to their students, but in many cases the faculty and staff themselves are not provided with any kind of training or support when it comes to such development. One of the precise challenges facing such institutions, if they are public and/or pluralistic, is that they cannot introduce practices or resources that are religious in nature.

Here contemplative traditions have much to offer, in that they go beyond the idea of a general ethos and dictated injunctions towards the implementation of specific techniques. It is not enough to tell students that they should be honest or that cheating is wrong; one must also teach them how to resist the temptation to cheat or withstand the pressure to compete at all costs. Since there is a natural relation between resisting temptation for religious reasons and doing so for simply secular, this-worldly reasons (such as resisting the temptation to cheat on a test), it is perfectly reasonable to think that at least some of the contemplative techniques developed in religious contexts can be applied in secular ones.

To understand how a religious contemplative practice can be adapted in such a way or "secularized," contemporary scientific paradigms and research can be very helpful. Recent work in grounded cognition, for example, has profound implications for the study of religious and contemplative practices. Grounded cognition is the idea that our higher cognitive processes are not free floating (*contra* Descartes) but rather grounded in the body's sensory modalities. Just as we share commonalities across cultures in terms of our physical embodiment, which structures our experience of the world, so do we share commonalities in terms of cognitive

and affective processes, because these are fundamentally embodied processes that developed along evolutionary lines within specific environments. A grounded approach provides a powerful means for empirically studying the effects of various practices on the body and mind, thereby providing tools for studying the commonalities of such practices across religious and cultural difference. Acknowledging such commonalities does not efface the important roles that religion and culture play in shaping and constituting our experience of the world; rather, it supports the importance of these roles.[4]

Grounded theories of cognition provide sophisticated models for understanding the relationship between perception, conceptual processing, and action—all of which can take place on an unconscious level. They stand in contrast to the amodal view of knowledge and concepts that has been dominant in psychology and cognitive science for some time. According to the amodal view, knowledge consists of arbitrary amodal symbols that have been transduced from modal perceptions. The experience of perceiving a situation (through all the body's modalities) produces representations in the brain's modality-specific systems, but this experience is then transduced into amodal symbols to represent the experience in knowledge, and the amodal symbols are stored in memory. After that, the body and brain's modality-specific systems are no longer required for such knowledge. These amodal symbols can then be retrieved and expressed using words. Some, such as Jerry Fodor and Steven Pinker, have called this language-like symbol system "the language of thought" or "mentalese"—the idea being that despite there being different languages, there is an underlying mental system of symbolic representation that is linguistic in nature and that is basically universal. In an important difference to grounded theories of cognition, the original modal-specific symbols that produced these transductions do not become active during this process of re-creating the experience.

Grounded theories, on the other hand, as seen in the work of Larry Barsalou (Barsalou et al. 2003, 2005), maintain that all knowledge—not just perception—is grounded in the brain's modality-specific systems. In contrast to amodal theories, Barsalou's theory of simulation holds that the original modality-specific states are partially captured during experience for the purpose of later representation. Thus, experience is not transduced into a symbolic language of concepts and symbols; rather, the modal systems of the brain activated during an experience are captured

4 As Fuller notes (2007, p. 27): "Drawing attention to the 'leverage' that the body and its emotions have on religion does not ignore the role of culture in constructing human experience. Indeed, the pre-eminent biologist Wilson (1975, p. 550) warns that biological explanations of human behavior can never be complete since, in humans, 'genes have given away most of their sovereignty' to culture. Understanding how the body influences religion, then, is not about reducing human thought and experience to biology. It is, however, about mapping the different kinds of leverage that the body exerts on humanity's spiritual impulses."

by association areas. Later, when that experience is recalled, the same systems in the brain that were active during the original experience become reactivated. Thus, the conceptual system is on a certain level a close recreation of the experience (or, more likely, aggregations of multiple experiences) using the same modalities and brain areas. For that reason, it is called a simulation, because the individual is simulating the experience in a fully embodied way, albeit not necessarily on the level of conscious awareness.

Considerable evidence has amassed supporting this model of cognition. In one experiment, participants produced more occluded characteristics for concepts such as "rolled-up lawn" than for just "lawn," such as roots and dirt, suggesting they were unconsciously simulating (visualizing) the rolled-up lawn, something one would not expect amodal theories to predict. When describing concepts such as "worm" or "bird," subjects tended to look down or up, respectively, suggesting they were simulating "being there." When asked to speak on positively and negatively affectively charged concepts, such as "smiling baby" or "attacking dog," subjects' facial expressions showed positive or negative affect, again suggesting simulation and that they were actually generating appropriate emotional responses. Subjects to whom a physical setting was described produced appropriate motor orienting responses for such settings. Even subjects evaluating a simple sentence involving motor activity for grammar activated the associated motor system (Barsalou et al., 2005).

Embodied states both result from and affect social processing. As Barsalou et al. note:

> people establish entrenched simulations of frequently-experienced situations, where a given simulation includes (among many other things) a variety of bodily states, such as facial expressions, arm movements, and postures. When environmental cues trigger the simulation of a social situation, part of the simulation is expressed in relevant bodily states. Conversely, if the body is configured into a state that belongs to one of these simulations, the state retrieves the simulation, which then affects social information processing. (2005, p.29)

Moreover, the relationship between bodily states and affect / cognition seems to be a two-way street: adopting certain postures and facial expressions leads to measurable changes in affect and cognition; similarly, changes in affect and cognition result in changes in body states, including posture. Most of the work in this area has been on facial expressions and emotions. Ekman has found that forming facial expressions for fear, anger, disgust, and so on, triggers the associated emotions and their physiological responses (Ekman and the Dalai Lama, 2008); and other studies have shown that smiling or frowning, even when the subjects were unaware that they were making an emotional expression (because they had merely been asked to hold a pencil in their teeth or lips), similarly resulted in changes in affect (Barsalou

et al., 2003). The literature showing embodiment effects and supporting the view that mind and body are much more closely related than has been previously acknowledged in the cognitive sciences is already significant, but the real significance of such discoveries for our understanding of religion and religious and contemplative practices has not yet fully sunk in, despite contributions by Slingerland (2008), the early pioneering work by Varela et al. (1992), and others.

Cumulative Interaction Effects

Many of these findings suggest that types of processing on cognitive, affective, and embodied levels can be mutually supportive or mutually hindering. In other words, certain types of thought and affect are conducive for certain body postures, and vice versa. That is to say, compatible embodied and cognitive states result in smoother, faster processing, whereas incompatible states slow down or inhibit processing (Barsalou et al., 2003). This finding from grounded cognition research should sound very familiar to students of contemplative practices, particularly students of yoga or martial arts: if the body and mind are in alignment, the practitioner will achieve far greater success than if they are not. In one experiment, where subjects were asked to signal things they liked with a pulling of a lever towards them and things they disliked with a pushing of the lever away, the subjects were able to complete the action more quickly than those for whom the association was reversed (Chen and Bargh, 1999). Such experiments are in general alignment with Lakoff and Johnson's (1980) work on the embodied metaphorical nature of language ("I feel close to him" vs. "I feel distant" or "I'm keeping him at a distance"), suggesting that the basis for such language use is in fact the nature of our conceptual thought and its fundamental reliance on embodied action. As human beings, we have the option of disregarding or overriding our inclinations—we can, in fact, pull the lever to indicate we dislike something and push it away to indicate that we like something—but optimal performance is seen when embodiment, cognition, and affect are compatible and in alignment, perhaps due to the benefits of redundancy in situated simulations.

Such work clearly has profound implications for the study of religious, contemplative, and ritual practice. It provides the means to show empirically how such practices may be combining body practices, thought processes, affect, and words in ways that are mutually supportive in creating powerful transformative experiences and changes in subjectivity over time. It helps us to understand that when contemplative practices employ movements or positionings of the body, such as a yoga *āsana* or a hand *mudra*, such movements are actually facilitating cognition and affect in a very specific and tangible way. Furthermore, most contemplative practices do not merely create one embodied cognitive-affective state; rather, they tend to be arranged in a sequence or liturgy of practices that move from one state to another. These states are not unrelated to each other; rather, they reflect an embodied cognitive logic, whereupon a prior state induces a subsequent state, much in the

way that a logical syllogism induces an inference. In other words, the liturgy of the ritual practice (such as in a Buddhist *sādhanā*, a series of yoga *āsanas*, or sequenced *lojong* practice like Cognitively-Based Compassion Training) evokes certain cognitive-affective states that then facilitate other states in synchronic and diachronic dynamic causal relationships.

One typical example of this (reflected in two secularized Buddhist practices: Japanese Naikan practice and CBCT) is that a sustained reflection on the kindness one has received from another leads to an experience of deep gratitude for that person (or those persons), which then results in a wish to repay their kindness; it also leads to a greater sense of affection for that person, which in turn lays the ground for genuine love and compassion (Ozawa-de Silva and Ozawa-de Silva, 2010). Modern psychology has up to now devoted insufficient time to studying the ways in which cognitive-affective states relate to one another, or how one state can induce another, or inhibit another. Research on positive and negative emotions, for example, and how they relate to each other, is just beginning. Yet this type of embodied cognitive logic is central to contemplative practice, and significant portions of contemplative psychology in traditions such as Buddhism are devoted to understanding the specific relations between emotional and cognitive states.

Embodied Cognitive Logics in Religious Traditions

Disciplines such as anthropology and religious studies have long attempted to account for the power of ritual action, and the relationship between beliefs and bodily practices. This has occurred within the cultural context in many modern societies of a strong dismissal of ritual as meaningless action. By providing both a methodology and a theoretical model for understanding the relationship between conceptual understanding, cognitive processing and affect, on the one hand, and bodily states and actions, on the other, grounded cognition can contribute significantly to the study of ritual and contemplative practices in the social sciences and humanities.

Every major religious tradition incorporates ritual as a central aspect of the tradition, suggesting an implicit recognition of the connection between bodily and verbal practices with mental and emotional states. Contemplative practices, I have suggested, may themselves be seen as rituals for individuals, just as rituals may be seen as collective contemplative practices—with the caveat that a *sine qua non* for contemplative practice is that it leads to, or is oriented towards, a transformation in subjectivity conducive to spiritual development. For example, in Catholic theology, the saying *lex orandi, lex credendi* ("the doctrine that is prayed is the doctrine that is believed") implies that people will come to believe what they vocalize repeatedly

in prayer or liturgy.[5] In the Buddhist tradition also, recitation is a main form of religious practice. Many contemplative practitioners have dozens of pages of text that they have memorized and that they recite daily. These recitations include many stock formulae about intentional, affective, and cognitive states that the tradition teaches should be cultivated and are beneficial for spiritual development. His Holiness the Dalai Lama, for example, has often advocated recitation of a four-line verse written by the 8th century Buddhist philosopher and saint, Shantideva, in his work *Bodhicaryāvatāra* or *Guide to the Bodhisattva's Way of Life*. In teachings that the Dalai Lama gives to Buddhist assemblies, he often asks those present to recite this verse seven or twenty-one times along with him:

> *As long as space remains*
> *As long as sentient beings remain*
> *Until then may I too remain*
> *To dispel the miseries of the world.*

Clearly, the tradition believes that the recitation of these words, preferably combined with an attempt to generate an altruistic intention in one's mind, has a certain beneficial quality, gradually making the arising of genuine altruism possible in the practitioner. It is understood in the tradition that there is a sequence that moves from the mere recitation of words, to a "contrived" form of generating the related cognitive and affective states, to a genuine, deeply felt experience of the cognitive and affective states.

In certain cases, we find practices that are even more explicit about this connection. For example, in a text by Padmasambhāva, the tantric adept who is credited as one of the key figures who brought Buddhism to Tibet, the author gives precise instructions on how to cultivate the appropriate sense of disillusionment with cyclic existence (*samsāra*) that is necessary for embarking upon true spiritual practice. What is remarkable is the precision of the body postures that should be adopted to bring about this state of mind. Moreover, these body postures are to be combined with specific vocalizations and thoughts:

> First, go by yourself to a place that arouses disillusionment. If possible, go to a deserted place, broken-down ruins, a field of dried grass rustling in the wind, or an eerie place...

5 Members of some religious traditions may actually leave their religious organization because they find that they can no longer assent cognitively to what they are reciting verbally (for example, a Christian increasingly having trouble reciting sections of the Creed dealing with the virgin birth); this, however, does not disprove the connection between recitation and cognition, but rather supports it: the inhibition of not believing what one is reciting may make the recitation more difficult, and become an incentive to leave and not recite. Alternatively, cognitive dissonance may trigger a re-conceptualization of the content of faith (a new idea of what the virgin birth may signify, or a non-literal interpretation that comes to supersede the literal one), thereby relieving this kind of tension.

> In terms of posture, sit on a comfortable cushion with one leg folded. Plant your right foor on the ground, press your left leg against the ground, rest your right elbow on your right knee, press your palm against your right cheek, and clasp your left knee with your left palm. This posture will lead to stark depression.
>
> Then with your mind ponder the sufferings of the cycle of existence, and with your speech occasionally utter these words, letting them arouse your mindfulness: "Alas, alas! Wretched me! This cycle of existence is suffering. Nirvana is joy!" (Wallace, 1997, pp. 17-18)

These instructions and practices would provide very interesting study material for social and cognitive psychologists interested in embodiment effects. Embodied states both result from, and affect, social processing.[6] If the optimal performance seen when embodiment and cognition are compatible is due to the benefits of redundancy in situated simulations, then are such instructions as the ones above examples of compatible body postures, thoughts, and words? They seem to be organized to induce, as the text says, "stark depression," yet the "turn" may be in the following instruction then direct that depression at the "cycle of existence" (*samsāra*). This may lead to a new conceptualization, one considered beneficial by the tradition.[7]

Conclusion

Although the scientific study of contemplative practices has focused largely on their benefits for physical and psychological health, contemplative traditions rarely, if ever, sought to employ such practices for such purposes. Although the use of contemplative practices for the treatment of mental illness, for example, may bear fruit and help to ease the suffering of many, we should remember that such practices are not employed in such a way in their traditional contexts, even today. Instead, their purpose is for the ethical and spiritual formation of practitioners. The employment of contemplative practices in education, therefore, may have even greater potential than their use in medical and health-related fields.

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6 As Barsalou et al. (2005, p. 29) note: "people establish entrenched simulations of frequently-experienced situations, where a given simulation includes (among many other things) a variety of bodily states, such as facial expressions, arm movements, and postures. When environmental cues trigger the simulation of a social situation, part of the simulation is expressed in relevant bodily states. Conversely, if the body is configured into a state that belongs to one of these simulations, the state retrieves the simulation, which then affects social information processing."

7 Similarly, in tantric meditation practices, the practitioners similarly engage in hand gestures (mudra), vocalizations (e.g., mantras), and visualizations (e.g., mandalas). The visualizations often contain the visualization of the body of a Buddha, in a very specific posture, with specific expressions, and with specific proportions, which, due to mimicry, could effect changes in the practitioner. It would be very interesting to study how these practices create specific effects and changes in the body and mind depending upon what is gestured, recited, and visualized.

Up until now, a large focus of the integration of contemplative practice into education has focused on non-analytical practices such as mindfulness meditation, yoga, and so on. These practices have much to offer educational practice and educational institutions, but they do not represent the full breadth of the resources available in contemplative traditions. Some may believe that through the sustained practice of a single technique, such as mindfulness, the full range of positive virtues, like compassion, forgiveness, generosity, and self-restraint, will emerge. It is quite possible, however, that a single technique is not enough, and that there is a good reason why contemplative traditions contain a variety of practices, rituals, texts, and contemplations. Recently, more attention is being paid to secularized adaptations of more complex forms of practice, including practices that involve analytical or discursive meditation, such as Cognitively-Based Compassion Training (CBCT). In analytical meditation, a practitioner engages in a critical engagement with his or her object of meditation, seeking to gain new insight or a new perspective into it. Attention to such practices opens up new possibilities for contemplative pedagogy, because they bring specific pedagogical content into the meditation itself. Indeed, recent efforts to bring CBCT into educational settings and to populations of elementary school-aged children, adolescents, and university students have proved fruitful (Ozawa-de Silva and Dodson-Lavelle, 2011; Dodson-Lavelle et al., under review). This program includes complex reasoning about interdependence, the nature of destructive emotions and how to overcome them, and other topics, integrating such reflections into the meditation practice itself. The CBCT program for children therefore seeks to provide children with the tools for developing ethical decision-making and for cultivating the emotions and attitudes that will contribute to ethical behavior, rather than simply providing external ethical injunctions and standards. Gradually, entire curricula could be developed that allow student to engage in critical reflection on ethical issues and that also teach them the skills of contemplative practice that are necessary to close the gap between the ethical ideals we aspire towards and our everyday behaviors and emotional reactions.

Although the use of non-analytical techniques may seem safer, because they avoid concepts or values that could be considered religious, they will likely be less powerful in facilitating ethical formation for just that reason. Recent developments in science actually give us less reason to fear moving in this direction towards ethics in education. The study of embodied cognitive logics will likely show that while culture and religion do shape practices and how we should understand them, they should not be understood as *completely* determining the meaning or effect of practices. Those of us who are cultural anthropologists, social scientists, or humanities-based scholars of religion cannot ignore the body and its impact on cognition and affect; nor should we ignore that our common embodiment means that there may be commonalities of practices and their effects across religious and cultural boundaries. In other words, there is a common ground for secular ethics.

The idea of embodied cognitive logics also suggests that we should not give in to a subtle tendency to take for granted the *arbitrary* nature of symbols and rituals. This arbitrariness that may stem in part from Saussure's pioneering work in linguistics (what he called *l'arbitraire du signe*) and its appropriation into social science by figures such as Levi-Strauss. Such arbitrariness, however, presumes an invalid break between symbol and world that actually is founded upon an equally invalid break between mind and body (cf. Saussure, 1983 and Levi-Strauss, 1963). Part of the power of language is no doubt its ability to separate the signifier from the signified, to have multiple signifiers refer to a single signified, and also a single signifier able to refer to multiple signifieds; therefore, one naturally has to acknowledge a degree of flexibility when it comes to language's relationship with the world. Nevertheless, that does not mean that language is completely arbitrary. It is much more likely that language (in particular, specific words and utterances) arose within contexts that were shaped not by the environment and bodies within that environment; this embodied cognitive view would therefore suggest that language would not be completely arbitrary, but that specific sounds might be tied to certain bodily and embodied cognitive states. This is supported by recent research by Nygaard, Cook, and Namy, who have used a variety of thought-provoking experiments to show that people have a tendency to relate certain kinds of sounds (words in other languages) to certain kinds of concepts, even if they have no knowledge of what the words mean (Nygaard et al., 2009).

Gestures, colors, words, visualizations, body movements, foods, clothing, decorations and arrangements of sacred space, and so on, all of which may be employed in ritual liturgies should *not* be seen as merely arbitrary. Not only do they have cultural and religious symbolic significance—for this has been long recognized by scholars of religion, anthropologists, and ritual studies specialists—but they also engage embodied cognitive structures in a way that is not "merely symbolic" in the sense of arbitrary and restricted to effects on the mental level.[8] These symbols, actions, environments, and so on, function interactively to create cumulative interaction effects. In many cases they will be cross-culturally salient; in some cases, symbols and actions may be culturally or religiously specific. The point is that they are not necessarily *all* culturally and religiously specific.

In a similar way, ethics is neither arbitrary, nor entirely dependent upon specific religious traditions, because it is rooted in common embodied experiences of harm and care. Far from leading to a reductionist understanding of religion, therefore, attention to the interconnected relationship between body and mind suggested by grounded theories of cognition can provide an impetus for studying

8 Of course, most of the scholars in these disciplines would not accept a view of something being "merely symbolic," and that is the point here: symbols in such context are non-arbitrary and have effects that we now know can be discovered through empirical means.

the power of beliefs, body practices, environments, and their processes of mutual influence and interaction. Moreover, it is not only contemplatives who may have something to learn from recent work in psychology and neuroscience; it is quite possible that the scientific study of contemplative practices and a greater understanding of the embodied cognitive logics they are built upon could significantly alter the way scientists understand the plasticity, structure, and function of the mind, emotions, and subjectivity.

It is important to stress that the recognition of regularities in cognitive and affective processing that take place due to shared features of our embodiment and our environment, and that seem at least at a basic level to transcend cultural and religious differences, should not in any way efface the importance of those very differences and the ways they can impact processing. The "nature vs. nurture" divide is an artificial one, just as current thought in epigenetics increasingly sees the relationship between genes and the environment as an interdependent one, rather than a clean and fast division. As Nathaniel Barrett points out:

> In contrast, an interactive approach sees convergent patterns of human behavior—even universal patterns—as jointly constructed by innate biases and environmental regularities, including the socio-cultural regularities of a particular historical context. The outcome of this joint construction may be so stable and widespread that it seems fixed or "hard-wired." But once we admit the possibility of accounting for patterns of human behavior in this way, we raise the question of how the reshaping of our environment creates new landscapes, with new patterns of convergence—which is to say, new kinds of cognitive possibilities—and we thereby open the door to considerations of how human behavior is *continuously evolving* as a dynamic biocultural system. (Barrett, 2010, pp. 602-603)

One task for the emerging field of contemplative studies is therefore to bring diverse theoretical, methodological, and disciplinary approaches to the practices of self-transformation that have been developed in a variety of religious and non-religious contexts in a way that actively seeks to gain practical and theoretical knowledge of the practices and to develop a discourse for analyzing, describing, and comparing such practices that is not bound to a particular religious tradition. To do this, scholars in contemplative studies must be both open to the possibility that religious practices have effects that can be observed and investigated empirically, and skeptical (in a positive and critical way) of the indigenous explanations offered by the traditions themselves. At the same time, it will be important for scholars to take seriously the indigenous explanations and theoretical models put forward by individuals within the traditions as discourses that can potentially inform, and even shape, scholarly discourse.

In his concluding remarks to the conference on compassion meditation mentioned above, His Holiness the Dalai Lama put out a call to all those who care about the implementation of contemplative practices in education for the benefit of humankind, saying:

> I think we have to promote that there is a possibility for moral ethics based on secularism. We have to promote that. And we have to work hard to try to alleviate the fears and suspicions that people may have about the untenability of secular ethics. For years I have wished for some concrete research on the benefits of the practice of compassion. Now you are actually implementing that here. So now these are a new concrete basis for a curriculum to educate in a secular way from kindergarten up to university. So this is really wonderful. It sounds like there's a dawning of a new day.[9]

To the extent that each one of us contributes to the implementation of contemplative practice in education for the cultivation of basic human values, however large or small our contribution may be, we are helping to bring about that new day.

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