

Editorial

# Introduction to “Cognitive Science and the Study of Yoga and Tantra”

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The range of disciplines known as the Cognitive Science of Religions (CSR), which has emerged in recent decades, embraces many areas and specializations within the Academy, including cognitive science, linguistics, neuroscience, and religious studies. The results of this exploration, some of which are offered in this Special Issue before you, are intriguing, profound, and yet still preliminary. As will be noted below, this “preliminary” nature of CSR is due to the fact that our scientific knowledge of the neurological system—let alone of how the mind “works”—is still in mostly early phases. Techniques in imaging and scanning the brain, as well as in understanding patterns and processes in perception and cognition, are advancing with every day, yet we are still at some remove from making all but the most general or speculative statements. This does not, of course, mean that we have to stand by and wait for the technology to improve or to reach some critical point. As with any meaningful discipline in scholarship and science, CSR proceeds in halting but definite steps, and we hope that the essays in this issue demonstrate what some of us in the area of Tantric Studies can provide to the dialogue. None of these essays are by cognitive scientists, so we ask our colleagues in the sciences to consider how the dialogue might be furthered through their own efforts in understanding Tantra.

For those unfamiliar with Tantric Studies (itself a fairly recent interdisciplinary field of academic pursuits),<sup>1</sup> the field is one which examines “Tantra”, a broad range of originally pan-Asian religious traditions connected to Hinduism, Buddhism, Jainism, Taoism, and various indigenous communities. As with the ongoing scholarly dispute over basic methodologies, terminology and vocabulary in CSR, there has been lively debate over the key term of “Tantra”, as well as how far back it goes in history.<sup>2</sup> Dating from no later than the 4th century CE in South Asia, Tantra is difficult to define, but perhaps best regarded through the lens of a “polythetic” category as proposed by Douglas Renfrew Brooks.<sup>3</sup> Tantra may be regarded as historical systems of ritual practices in which an individual engages with a layered cosmology, utilizing diverse senses, cognitive capacities, and sexuality in order to achieve elevated states of consciousness and embodied liberation. There are innumerable iterations of Tantra, ranging from theistic to nontheistic, although most seek to “reverse” the flow of cosmic process and manifestation in order to lead the individual to some heightened, typically unitive, state.

<sup>1</sup> On the history of Tantric Studies and the Society for Tantric Studies (STS), see (Hayes 2011, 2012a). As recent scholarship is most prolific, the essays in this Special Issue of *Religions* only examine small segments of the field.

<sup>2</sup> For an excellent introduction to the study of Tantra, including translations of many texts, see White (2000). On selected aspects of the history of scholarship on Hindu Tantra see Brooks (1998), Urban (2003) and Hayes (2011, 2012b). Urban provides a wealth of material concerning the complicated issues related to the study of Tantra in Western scholarship and in popular culture.

<sup>3</sup> See (Brooks 1998). His useful discussion of the ‘polythetic’ nature of the category of Tantra, following earlier ideas of Jonathan Z. Smith (1978, 1982, 1987), may be found on (pp. 53–72). This debate over the very category of “Tantra” was an early point of discussion in meetings of the Society for Tantric Studies (Hayes 2011). For a good working definition of Tantra, see White (2000, p. 9). Hayes (2012c) provides a recent bibliography on Hindu Tantra.

To achieve this, most Tantra employ psychophysical techniques from the many streams of Yoga, but also “transgressive” actions such as ritualized sexual intercourse and ingestion of “impure” substances.

Besides social and historical approaches to reading cultures, studies on mysticism have also helped shape the scholarship of Tantric studies in our times. Following in the footsteps of figures such as William James and Carl Jung, particularly in their interest in anything mystical, scholars such as [Mircea Eliade \(1969\)](#), [Agehananda Bharati \(1964\)](#), [John Woodroffe \(1972, 1974, 1978\)](#), [W. T. Stace \(1960\)](#) and [R. C. Zaehner \(1972\)](#) have addressed issues such as altered or transformed states of consciousness (*samāveśa*), various forms of ecstasy and *samādhi* states, and mediumship or possession. Tantric transgression of social norms has also contributed to some of the scholarship in the field of Tantra, and the works of [Jeffrey Kripal \(1998, 2001\)](#) exemplify this dimension. The interplay of mystical power that is cultivated by Tantric practitioners and the dynamics of real power in the political realm have been examined by scholars such as [Hugh Urban \(2001a, 2001b\)](#). Although the scholarship in these areas has not generally analyzed the cognitive domains of Tantric practice, it has nonetheless shaped the discourse on studying Tantra in the West, including our efforts to engage a cognitive approach.

Scholarship in Tantric Studies has been a global effort for many decades, and a leading figure has been Alexis Sanderson, who has not only provided the field with magisterial translations and studies (e.g., [Sanderson 1990, 2007, 2009](#)) of Śaiva Tantra, but who has also mentored and inspired a generation of other scholars, including [Dominic Goodall \(2004\)](#). Another major scholar has been the late [Andre Padoux \(1990, 2000, 2004, 2010\)](#), who examined Tantric ritual language and prepared a useful technical dictionary of Tantric terms. Mark Dyczkowski, from his base in Varanasi, India has also been prolific, with many translations and studies (e.g., [Dyczkowski 1988, 2000, 2004a, 2004b, 2009](#)). Raniero Gnoli has also provided us with superb translations and studies (e.g., [Gnoli 1972](#)), as have [Raffaele Torella \(2013\)](#) and [John Nemeč \(2011\)](#). There has also been much fine scholarship in the area of Buddhist Tantra, as well as ongoing debates on whether Hindu or Buddhist Tantra developed first. Again, this is not intended as a literature survey, but for an overview of Buddhist Tantra in general (and on specific traditions), readers may consult [Davidson \(2005, 2012\)](#), [Jackson \(2004\)](#), [Gray \(2007\)](#), [Orzech et al. \(2010\)](#), [Acri \(2016\)](#), [Isaacson \(1998, 2013\)](#), [Wallace \(2001, 2011\)](#), [Snellgrove \(1959, 1987\)](#), [Wayman \(1991, 1993\)](#), and [Wayman and Lessing \(2008\)](#).

One of the many reasons why Tantra has been so successful in the history of religions (especially in Asia), and why it provides such a fine topic for study by the CSR, is that it has promised its followers enriched and deepened modes of human experience. Tantra takes both consciousness and embodiment seriously, and offers its own solutions to the dilemma of human suffering and the perils of worldly existence. The cosmic significance and cognition of not only sound and hearing, but quite literally all of the senses, makes Tantra a perfect subject for CSR. There have been countless practitioners of Tantra, but far fewer academics who possess the language skills and intellectual training to engage with the material. Thus, in this ongoing collaboration between CSR and Tantric Studies we will require the cooperation of neuroscientists, cognitive scientists, and engaged scholars from the humanities and social sciences. This dialogue can become problematic, but seems to us well worth the effort. It may well lead us to a deeper and broader understanding and appreciation of what it means to be human, always a worthy goal.

Although this is not the place to consider the history of cognitive science or to conduct a literature review, it is useful to look at a few key points in order to set a context for this special issue. Many of the theoretical origins of CS can be traced to developments dating back to the 1940s and 1950s, as well as to the works of linguists such as Noam Chomsky and George Miller ([Goldberg 2008](#), p. 59). Today, the field of CS is incredibly diverse, and includes (but is not limited to) artificial intelligence, psychology, neuroscience, linguistics, anthropology, philosophy and, most recently, religious studies.

One recent emphasis, especially in CSR, is to understand how religious experience “works” from the levels of neural and cognitive functions “up,” or, as noted by [Jensine Andresen \(2008, p. 1, cited in Goldberg 2008, p. 63\)](#) “from the bottom up,” rather than simply as a “*sui generis*” phenomenon. Without specifically discounting the more cosmic aspirations of the human religious quest, CSR seeks

out the “nooks and crannies,” as it were, of the interfacing between the human brain/cognitive system and the surrounding cosmos. While setting aside the major ontological dilemma of the existence of the sacred and the “sui generis” nature of religious experience, this approach nicely complements the central emphasis on *context* by historians of religions. A person may be having a vision of a divine being, but that experience is embedded not only in the sociocultural and religious contexts of the individuals, but also in the neural and cognitive systems of the human body.

While the insights of William James, W. T. Stace, R. C. Zaehner and others have contributed to the overall positive tone of CSR (e.g., that religion is not necessarily “pathological”), the field owes a great deal to a number of recent thinkers, including [Pascal Boyer \(1994, 2001\)](#), [Stewart Guthrie \(1980, 1993\)](#), E. Thomas Lawson and Robert McCauley ([Lawson and McCauley 1990, 2002](#)) and [Dan Sperber \(1996\)](#). Their emphasis on the cognitive bases of religious experience has been influential in moving the field forward.

Another critical dimension of CSR has come from efforts in the areas of neurobiology and neuroscience, including the work of [James Ashbrook \(1993\)](#), Eugene d’Aquili and Andrew Newberg ([D’Aquili and Newberg 1993, 1999, 2000](#)), E. Gelhorn and W. F. Kiely ([Gelhorn and Kiely 1972](#)), [Michael Persinger \(1987\)](#), [Jensine Andresen \(2000\)](#), [Christof Koch \(2004\)](#), and [Patrick McNamara \(2001, 2009, 2016\)](#) among others. Many of these works have been controversial, to say the least, but all of them have furthered the collaborations between cognitive science and religious studies, leading to CSR. McNamara, whose work partly inspired a recent essay by [Hayes \(2014\)](#) on using cognitive science in the study of Hindu Tantra, was also the focus of an excellent symposium featuring Ann Taves, Jared Lindahl, Travis Chilcott, and Kelly Bulkeley ([Taves et al. 2011](#)). This dialogue, featuring four scholars who are doing groundbreaking work in CSR illustrates some of the dynamics emerging as scholars of religious studies engage with neuroscientists such as McNamara. Again, we hope that this current special issue adds to this dynamic.

From the prolific field of contemporary, or conceptual metaphor theory, CSR has benefitted by many interesting works by scholars such as George Lakoff and Mark Johnson ([Lakoff and Johnson 1980, 1999](#)), [Mark Turner \(2002, 2006\)](#), [Anthony Ortony \(1993\)](#), [Barre Toelken \(1995\)](#), and [Zoltan Kövecses \(1986, 1990, 1999, 2000, 2002, 2005, 2006, 2008, 2015\)](#). Emerging partly from these studies of metaphor, we also have the superb work on conceptual blending theory by Gilles Fauconnier and Mark Turner ([Fauconnier and Turner 2002](#)) as well as [Mark Turner’s \(2014\)](#) update on the theory. [Edward Slingerland \(2008\)](#) provides a magisterial overview of the possible interfaces between the humanities and cognitive sciences and, more recently, a CSR study of Chinese Taoism ([Slingerland 2014](#)). As noted above, we have also had splendid work from [Ann Taves \(2009\)](#), [Travis Chilcott \(2015, 2016\)](#), and [Kelly Bulkeley \(1994, 2004, 2005, 2017\)](#). Bulkeley has made important contributions in bringing together cognitive scientists and religious studies scholars, and more specifically in the area of the cognitive aspects of dreams and imagination in religious experience. Ellen Goldberg examined haṭha yoga using cognitive science in a useful essay ([Goldberg 2005](#)). Finally, the co-editors of this special issue, [Glen Hayes \(2003, 2005, 2006, 2012c, 2014\)](#) and [Sthaneshwar Timalsina \(2007, 2012, 2013, 2015a, 2015b, 2016\)](#), have also published numerous works in recent years dealing with various aspects of CSR in the study of Tantra and Yoga.

There are new publications and collaborations in the field of CSR virtually every month, if not weekly. At noted learned societies such as the American Academy of Religion (AAR) there are now established program units such as the Cognitive Science of Religion Group at the AAR, and smaller societies such as the Society for Tantric Studies (STS) have included panels on CSR in recent conferences (beyond the 2016 meeting). Readers could certainly add their own examples to this list. There are a number of excellent academic journals dedicated to CSR such as the *Journal of the Cognitive Science of Religion*, *Journal of Cognitive Historiography*, *Journal of Consciousness Studies*, *Journal of Cognition and Culture*, *Religion, Brain, & Behavior*, and the *International Journal for the Psychology of Religion (IJPR)*. In 2016 we saw the publication of an important anthology/workbook bringing together many scholars of cognitive science and religious studies: *Religion: Mental Religion*, edited by Niki Clements

(Clements 2016). Although intended for a general audience, this book provides us with a good “snapshot” of the state of the field in 2016, with chapters devoted to evolutionary psychology, cognitive linguistics, conceptual blending, neuroscience,entheogens, theory of mind, and dream states. Taken all together, these developments, as well as this special issue, demonstrate that CSR is indeed a promising avenue for emerging scholarly inquiry, and we hope that the following essays enhance the dialogue. Our attempt to present a volume on Tantric Studies and Cognitive Science is based on this simple premise: we can investigate and analyze some of the most interesting domains of human experience using insights and methods from cognitive science.

### Essays in this Special Issue

In developing this new field at the intersection between contemplative practices and cognitive science, the first challenge is the need for a new vocabulary, as suggested by Hayes (2014). However, it can be difficult to negotiate the boundary between the liberating and transforming experiences found in tantric and yogic practices on one hand and the reductive and embodied domains of cognitive science. Keeping this in mind, our first essay, by Jeffrey Ruff, explores selected issues of confusion, mindfulness, humor, and dispassionate vulnerability to establish a conversation between contemplative and esoteric traditions on one side and neuroscience, cognitive science, and cognitive linguistics on the other. The argument Ruff has made does not merely develop some terms and redefine some concepts. He moves beyond this basic premise and argues for a bi-directional influence, with the underlying assumption that this conversation will help us better understand contemplative traditions. Ruff clearly outlines that this is not an effort to subsume one discipline within another. On the contrary, he argues that these disciplines are irreplaceable and incommensurable. With this premise, he seeks to establish a new paradigm that works with incommensurable concepts to assist in understanding cultural phenomena. This paper thus lays the foundation for the need of a disciplinary dialogue between cognitive science and contemplative practices.

The confluence between these disciplines has a potential to illuminate various archaic forms of beliefs and practices, and the language used in packaging such practices. Tantric language in particular is typically obscure, and pursuing a literal meaning often fails to unravel the texts and traditions. Keeping this in mind, Sthaneshwar Timalsina explores the cognitive domains of Tantric language. Tantric texts are saturated with metaphors, and metonymy is central to Tantric symbolism, both in literary and visual forms. Even Tantric rituals are an extension of metonymic transactions. Various concepts from Vedic and autochthonous practices are integrated in Tantric practice, and both the private, meditative discourse and public ritual domains demonstrate a complex blending of concepts from different sources. Reading Tantric texts or unpacking the symbolism beneath archaic literature, following Timalsina, is easier if some of the concepts from cognitive linguistics are applied in this effort. Timalsina argues that the application of the contemporary theory of body schema, metonymy, metaphor, and conceptual blending supports a much deeper understanding of Tantric language. In both the empowered language of *mantric* speech and in the cosmic visual diagrams of *maṇḍala*, the compression of meaning from different inputs is essential, and the source itself needs to be deciphered by applying some or another metaphor theory. Mystical experience, the central goal of contemplative practice, is regarded as accessible through the aspirant’s ability to explore a cosmology of multisensory layered meanings. Thus, any scholarly effort in understanding the texts or visualizing deity images may fruitfully engage the analytical decompression of meaning through the application of some cognitive linguistic theories. Timalsina argues that this approach has more to offer in understanding the cultural domains than the models developed during colonial and imperial times, as well as in more recent scholarly approaches.

The first concern some scholars may have upon learning of this new endeavor is: how can the confluence of the spiritual practices of Tantra with the necessarily reductive disciplines of contemporary neuroscience, cognitive science, and other behavioral studies even be possible? The general premise underlying this posture is just an extension of the problem of the ongoing dialogue (and often

disagreement) between religion and science in general.<sup>4</sup> The dilemma of this stance, however, is the problematic system of rigid, binary categories of ‘religion’ versus ‘science,’ and the ongoing effort to keep them epistemologically apart. This effort, while understandable to some degree, has caused more confusion than it has solved problems. Furthermore, what constitutes ‘religious’ in the Abrahamic traditions may not apply when reading Asian traditions. Mind-body dualism is one such area.<sup>5</sup> In order to demonstrate a unique understanding of the body-mind relationship in the Tantric paradigm, Loriliai Biernacki seeks to link an understanding of the relation between mind and body with an analysis of the philosophy of the renowned Kashmiri polymath Abhinavagupta (ca. 1000 CE) and the methods of neuroscientist and psychiatrist Giulio Tononi. Biernacki argues that both Abhinava and Tononi have remarkably similar methods in linking the mind and the body, and to ground this claim, she introduces Tononi’s Integrated Information Theory, particularly its underlying assumption of the need to start from a phenomenology of experience to explain consciousness and resolve the mind-body problem. Abhinavagupta, Biernacki points out, makes similar connections when addressing the concepts of knowledge (*jñāna*) and action (*kriyā*). Both Abhinavaguptian and Tononi’s models deviate from Cartesian dualism and the problems that ensue.

There are a number of underlying assumptions in the Abhinavaguptian paradigm that Biernacki identifies in her attempt to establish a bridge between his and Tononi’s philosophy of consciousness. For Abhinava, matter is fundamentally real, and materiality and subjectivity are interlinked. Following the premise that the world is real and causally operative, Abhinava explores a greater communication between the domains of subjectivity and materiality. For Tononi, information is both causal and intrinsic. This is where Biernacki finds a greater communication between his philosophy and Abhinava’s ‘dual-aspect monism.’ She argues that Abhinavaguptian monism is the culmination of panpsychism, and on this ground, she suggests that Tononi’s theory provides a better explanation when linked with Abhinava’s philosophy. Biernacki finally argues that Tononi’s assertion that information is both ‘causal and intrinsic’ mirrors Abhinavagupta’s understanding that action (*kriyā*) is a fundamental component of subjectivity.

In the last several decades, there has been a growth of research in contemplative practices and neuroscience, with observable data analysis and neural imaging based on fMRI and MRI research of various meditation practices.<sup>6</sup> These efforts have been used by scholars and scientists to argue that there may be a direct correlation between mental health and yoga, meditation, chanting, and mindfulness practices, among others. These studies have also pointed to the direction of a greater communication between mind, body, and the ways our corporeal states and functions directly affect our mental wellbeing. Extending the arguments of Biernacki, Jeffrey Lidke’s paper explores the possible interactions between the mind and the body, with a focus on an initial analysis of yogic practice and its possible effect on the nervous system.

Lidke appeals in his paper for further neuroscientific research on Tantric practices, with an underlying assumption that salient features of Tantric practice might have an observable effect on our nervous system. His paper examines meditative practices, particularly the apophatic or sense-denying contemplative practices, combined with outward-gazing kataphatic or sense-activating ritual practices as found in Abhinavaguptian Tantric literature. These practices suggest the possibility of a harmony between a simultaneous activation of different sensory-nervous systems, recalling the multi-layered cosmologies of many Tantric traditions. The “bi-directional gaze” of Abhinava, in Lidke’s understanding, has a heightened cognitive activity where the subject finds a balance between being active in the world matched with contemplatively being withdrawn from the elements that obstruct the subject’s experience of oneness identical with the highest reality, Śiva. In this complex

<sup>4</sup> For a very useful discussion of this see [Edward Slingerland \(2008\)](#).

<sup>5</sup> On the problems of mind-body dualism in the study of Hinduism, see [\(Goldberg 2008\)](#).

<sup>6</sup> For an important work by a practicing neuroscientist see [\(McNamara 2009\)](#). His approach was criticized by religious studies scholars; see [\(Taves et al. 2011\)](#).

mode of cognitive processing, Lidke finds a total Tantric perfection. His argument is that this state of maximized cognitive practice simultaneously activates the parasympathetic and sympathetic nervous systems, although these conclusions still need to be supported by additional scientific research. Lidke's arguments stem from his basic stance that such further neurological research might identify a potential transformation in a subject's somatic states as a result of contemplative practices. In this, Lidke expresses the underlying view that there is much to be gained through emerging collaboration of CSR and Tantric Studies.

Just as Lidke argues for a better understanding of contemplative practice through neurological research with a focus on one particular Tantric meditative practice, Travis Chilcott, another contributor of the volume, advances his arguments based on another aspect of Tantra: the practices of devotion, *bhakti*. One of the problems in studying Tantra is the open-endedness of its disciplinary parameters, without boundaries that separate other disciplines and practices within Hindu and Buddhist contemplative traditions. *Bhakti*, a devotional practice and also an emotive state with the surge of love, is one such example that overlaps parameters of everyday Hinduism, Buddhism, and Tantric practices. This paper explores the transformation of cognition in the devotional practices of *bhakti* in order to unravel the emotional transformation through *bhakti*, with a focus on Gauḍīya Vaiṣṇavism. Chilcott argues that the cultivation of selfless love, in the case of *bhakti*, can be compared with the therapeutic model of schema therapy. In *bhakti* practice, as Chilcott argues, there is a focus on "working through" the feelings of possessiveness over objects of the world, with a systematic deconstruction of "my-ness" (*mamatā*). In these practices, following Chilcott, there is a conscious attempt to rework and modulate how one relates to and responds to objects in the world and the subject's relationship with the worldly objects. Chilcott concludes with an argument that connectionist theories of cognition and learning have the potential to offer an explanatory framework for understanding the dynamics of *bhakti*-oriented practices epitomized in Gauḍīya Vaiṣṇava discourse.

There are fundamental philosophical differences between Mahāyāna Buddhist and Śaiva Śākta Tantric practices. Nevertheless, numerous deities, *maṇḍalas*, *mantras*, and rituals that are commonly shared demonstrate a cultural fluidity in which Tantric Śaivism and Vajrayāna Buddhism evolved. Keeping this transaction in mind, the last two chapters in this volume focus on Buddhist Tantric practices, the first by Richard K. Payne and the second by Brendan Ozawa-de Silva. In his pioneering essay, Payne engages Buddhist Tantric ritual for an understanding of "ritual syntax." The private contemplative domain and the domain of *bhakti* each have their own spheres. Rituals, with their long history in pan-Indian culture, are central to temple religion, and can be publicly performed. The calming and transformative effects of the contemplative practices and the surge of emotion through *bhakti* are not as easy to objectively analyze as rituals found in the public domain. Payne argues that the cognitive domains of ritual transactions provide a fuller theoretical basis for comprehending complex social transactions in ritualized activities. Payne's analogy of ritual and language rests on some demarcation where production is not the same as analysis, syntax is not the same as semantics, ritual and cognition are not the same as mental processes, and syntax is not the same as language.

Payne uses insight meditation and *homa*, fire ritual, as instances for the cognitive study of ritual. His analogy of 'ritual syntax' here is to map the ordering of elements, as well as organizing elements in a hierarchical order. Payne observes that, just as syntax allows sentential elements to move within a sentence, ritual tends towards a form of invariance. Payne makes a distinction between the ritual domain and syntax by observing that rituals are often modeled on ordinary activities, producing some form of motivation. In this analysis, Payne conceives of cognition as operating at the intersection of body, mind, and the environment, rather than as exclusively mental objects and operations. By borrowing Catherine Bell's conception of ritualization, Payne concludes in his paper that the dichotomy between the mind and the body can be avoided, and he uses ritual *homa* as an example of the intersection between the mental and physical. His conclusion is grounded on the assumption that ordinary activity is an essential factor for ritual syntax, as it serves as the model for a

ritual. From within ordinary activity, Payne finds that metaphoric elements are applied to the ritual domain in order to discern and to attribute meaning.

Contemplative practices are private, and their transformative role in moral and ethical life is a topic for further consideration. Various Tantric practices transgress societal norms, and Tantric texts, Hindu and Buddhist alike, are full of such examples. If there is a measurable subjective transformation by means of contemplative practice, or if there is a positive effect of meditative practices, it is quite reasonable to explore a possible ethical consciousness by means of such practices. The ethical question becomes particularly poignant in the Buddhist Tantric paradigm, as the ethical in the human in this paradigm does not have any divine origin, and is dependently originated in some or another enactive process. Brendan Ozawa-de Silva addresses this issue in the last chapter of this volume.

Ozawa-de Silva argues that the issue of ethics must be addressed as a framework for understanding contemplative practice. In this regard, he explores the Tibetan Buddhist Lojong tradition and the various secularized practices stemming from it, considering the cultivation of compassion as an overarching theme in his discussion. There are two underlying assumptions in his analysis. First, he argues that the spiritual practice of compassion has a potential for secularized understanding of compassion in the global humanistic paradigm. Beyond this, the cultivation of compassion has the potential for functioning as a guiding principle in cultivating moral subjects in our global world. Ozawa-de Silva's focus on the Lojong tradition highlights the development of compassion in progressive stages. Ozawa-de Silva also points out that there is not a sharp distinction between emotion and cognition, and he finds this particularly helpful in advancing the argument that cultivating certain concepts can have a measurable transformation in one's emotional life, resulting in the development of moral subjects by means of compassion practices.

These essays are offered as just one step in the emerging dialogue between CSR and more traditional disciplines in the humanities and social sciences. In this case, we consider that the potential for a dialogue between Tantric Studies and CSR is promising and well worth taking to new levels and in new directions. Already, we have seen initial collaborations in learned societies such as the American Academy of Religions and the Society for Tantric Studies. This approach, we hope, helps advance both the 'soft' and 'hard' sciences by each providing the analytical framework and research materials for the other. The underlying Tantric philosophical monism, a greater exchange between body and mind in this philosophical paradigm, and an intricate relation between cognitive and emotional domains, are some of the factors to make this conversation both inevitable and productive.

Tantric studies is still in its infancy. Thousands of manuscripts that have been digitized in the past three decades are waiting to be studied and analyzed (yet many not digitized are sadly deteriorating in archives and private collections). Besides Śaiva Tantras and the Buddhist Vajrayāna texts and traditions, there are Vaiṣṇava Tantras, Jain Tantras, and Islamic Tantras. Many Tantric texts evade the parameters of any specific sect and there are sets of texts dedicated to magic, supernatural phenomena, and so on. There are rituals and indigenous practices that involve trance and various potions. Some Tantras address metaphysical and philosophical concerns, while most reflect the daily life of the religious practitioners. A cognitive approach to reading Tantric texts and practices has not only the potential to bridge the two disciplines of religious studies and cognitive science. It can also help us to explain archaic and often misunderstood domains of human experience. It is up to future scholars to carry on the legacy of studying the nexus of religion and science, the project that was initially envisioned by pioneers such as (James [1902] 1980).

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