Chapter 4

Transforming experience through the meditation and ritual of Chod

Insights from hypnosis research

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Abstract

Chod (Tibetan *gcod*), a ritual and meditation practice from the Tibetan Buddhist tradition, is associated with powerful transformations of experience that include the consumption of the practitioner's body by gods and demons in a deliberate act of self-offering. This practice is undertaken to realize Buddhist goals of compassion, non-attachment, and the direct recognition of non-self and the emptiness of phenomena. Practitioner accounts attest that these experiences of encounter with supernatural agents can be so vivid and realistic that they are terrifying. This raises the question of how the practice of Chod causes such powerful experiences of supernatural agents to arise. Chod's own account of how such experiences arise will be discussed in outline, before considering different perspectives from cognitive neuroscience and hypnosis research in particular. This leads to consideration of points of intersection as well as differences between the phenomena of Chod and hypnosis which resist their reduction to one another.

Introduction

This chapter discusses Chod (Tibetan *gcod*), a meditation practice from the Tibetan Buddhist tradition, which is associated with powerful transformations of experience that include the consumption of the practitioner's body by gods and demons in a deliberate act of self-offering. This practice is undertaken to realize Buddhist goals of compassion, non-attachment, and the direct recognition of non-self and the emptiness of phenomena. Practitioner accounts attest that these encounters with supernatural agents can be so vivid and realistic that they are terrifying. This raises the question of how the practice of Chod causes such powerful experiences of supernatural agents to arise. Indigenous Tibetan accounts of how such experiences arise are outlined, before considering perspectives from cognitive neuroscience and hypnosis research in particular. This leads to consideration of points of intersection as well as differences between the phenomena of Chod and hypnosis that resist their reduction to one another.

Chod and its place in Tibetan Buddhism

The description and contextualization of chod poses special problems because its terms, concepts, and practices belong to a distinct religious tradition with an assumptive world which differs from that of scientific psychology as understood in the West—for instance, the belief that consciousness can be separated from the body. (See, for example, the Chod text "The bellowing laugh of the dakini," of Jigme Lingpa (Lingpa, undated).) The approach adopted here is derived from the "phenomenology of religion," whereby insider accounts are treated as descriptions of experience and/or its interpretation, while the question of their truth is "bracketed out" (Bowker, 1973; Flood, 2011). This descriptive or "first level of phenomenology" is adopted during the exposition of chod and indeed of hypnosis. A second level of phenomenology, which focuses on the question of the relationship between experience, epistemology, and ontology is addressed later.

The term "Chod" means "to cut," while the practice of chod "cuts attachment to the body" (Low, 1997, p. 293). The lama and Buddhist scholar James Low states that the main practice

> . . . involves the yogin visualising his awareness leaving his body through the top of the skull and transforming into a wrathful goddess who then chops up the body and piles it into the top of the skull. This then becomes a great offering bowl filling the universe. All the beings of samsara and nirvana, ranked according to their spiritual realisation, are invited to feast on the mangled remains of the body which transform into whatever the guests desire (Low, 1997, p. 318).

Early Western commentators presented chod as a gruesome corruption of Buddhism (see Edou, 1996, p. 8). However, Tibetan and more recent Western scholarly accounts have shown how the chod tradition is intelligibly situated within characteristic Buddhist concerns with compassion, radical non-attachment, and direct realization of the truth of not-self and emptiness. Understanding links between chod and these components of Buddhism is important because they inform the meditation practices and interpretive systems that construct and reframe its transformations of experience.

Chod is one of many paths in Buddhism to realize the truth of emptiness (Sanskrit *śūnyatā*). In the *Prajñāpāramitā* ("Perfection of Wisdom") literature of the Mahayana tradition, the original Buddhist doctrine of not-self (Sanskrit *anatman*) and related notions of impermanence (Sanskrit *anitya*) and the conditioned nature of all phenomena (Sanskrit *pratītyasamutpāda)* were articulated through the doctrine of "emptiness." This notion was established through conceptual analysis and argument based on the philosophical system of *Madhyamika*, which informed the direct apprehension of this truth in meditative awareness (Edou, 1996; Low, 1997; Murti, 2013; Snellgrove, 1987; Warder, 1970). In this view,

> . . . whatever appears, all that we perceive, is devoid of inherent self-nature. There is no 'self-substance' in anything since everything is a construct, a juxtaposition of elements which themselves are mere juxtapositions *ad infinitum* so that no ultimate building blocks are discoverable. Our perspective shifts from that of a subject observing discrete objects to that of an awareness of processes in play (Low, 1997, p. 295).

Chod unified the view of the *Prajñāpāramitā* literature with methods of tantra as they developed in late Indian Buddhism and were transmitted to Tibet (Crook & Low, 1997; Samuel, 1995, 2008). Tantra involves meditations using visualizations, physical exercises, sound, and gesture to prepare the mind for enlightenment. It is not restricted to ascetic practices but may use passions (such as sexual arousal or fear) arising in the context of meditative awareness to realize the truth of emptiness (Crook & Low, 1997; Samuel, 1995, 2008). Tantra includes visualization of deities as distinct from self, as well as identifications of the self with deities. Within the Buddhist context, an effect of

these altered subjectivities is to help the practitioner realize that their habitual sense of self is itself a construction or reification, in keeping with the view of emptiness (Low, 1997, p. 322).

Chod also builds on an established Buddhist tradition of linking recognition of emptiness with compassion (Sanskrit *karuṇā)* through giving up the body to help others. The practice of compassionately offering the body in meditation was rooted in the Indian Sutra tradition—for example, in the "birth stories" (Sanskrit *jātakas*) of the Buddha in which, in a previous life, he allowed himself to be eaten by tiger cubs to prevent them from starving to death (Edou, 1996). It was also present in late Indian Buddhism and the Mahayogin ("great yogin") traditions that were transmitted into Tibet. For example, the Mahayogin Milarepa wrote,

> . . . leaving the body as a food offering
> Is the guide to subjugate ego" (quoted in Edou, 1996, p. 56).

In the eleventh century CE, the Tibetan yogini Machig Labdron systematized and developed traditions of the compassionate giving of the body into distinct transmission lineages with their own initiations, rituals, visualizations, meditation techniques, and conception of "banquets" in which the body is offered to different classes of beings (Edou, 1996, p. 56; Gyatso, 1995; Irving, 2006; Stott, 1989). Despite the variety of meditation practices and visualizations, there are shared features of chod that Machig Labron summarized as: "Meditate on compassion, transform your being into a food offering, and let mind rest in its true nature" (*Quintessence,* quoted in Edou, 1996, p. 53).

Chod is classically performed in 108 charnel grounds or cemeteries at night, although, in practice, this number of sites may not be visited (Low, 1997). Low comments that the location in cemeteries and invocation of gods and demons is "in order to maximise the potential for working with fear and self-protection centred on the body" (Low, 1997, p. 293). As Edou puts it,

> . . . in order to test his or her own realisation and provoke the appearance of self-grasping, the yogi deliberately takes up residence in charnel fields, cremation grounds and other wild, fearful spots and invites to the banquet of his or her own physical remains the most ferocious demons, the most bloodthirsty spirits and the cruellest dakinis. (Edou, 1996, p. 55)

The arousal of fear and a sense of vulnerability is therefore central to the practice, which seeks to encounter situations and objects that arouse intense emotions so they can be cut off or liberated (chod) as they arise (Edou, 1996, p. 41; Stott, 1989).

Before transforming the body into an offering of food, the practitioner uses one of a number of meditation techniques to disconnect awareness from the body and establish a direct recognition of emptiness. These techniques, collectively termed "consciousness transference [Tibetan *pho ba*] for recognizing the nature of mind," are also known as "Opening the gates of space" (Tibetan *nam mkha'i sgo byed*) (Edou, 1996, p. 48; Irving, 2006; Stott, 1989). The techniques vary in their use of visualizations; for example, one method involves ejecting one's consciousness as a drop (Sanskrit *bindu*) into the deity at the crown of one's head (usually Machig Labron or emptiness conceived as a goddess; Sanskrit *Prajñāpāramitā,*Tibetan *Yum chen mo*). The bindu is then visualized as re-entering the body through an aperture, and the meditator (now distinct from his or her body) immediately transforms into the Tantric deity Vajravārāhī (Tibetan *rDo rje phag mo*) or The Wrathful Black Lady (Tibetan *Khros ma nag mo*). Another practice involves merging consciousness with a visualization of empty space. These and other practices are different methods through which absorption in non-duality, the direct recognition of emptiness, is established. As already noted, establishing an appropriate meditative orientation is essential to allow the terror produced by "transforming the aggregates into food" to be "cut" or liberated as it arises.

When consciousness has been transferred to the heart of the deity or empty space, the aggregates (psychophysical constituents) are transformed into food:

> . . . the meditator instantly appears as Vajravārāhī [or as the Wrathful Black Lady]. With her meat chopper she cuts up the mortal remains that lie inanimate at her feet. Through a series of visualisations, the corpse is transformed into various offerings . . . Different banquets [Tibetan *'gyed*] are referred to. (Edou, 1996, p. 52)

Each banquet involves the transformation of the body into different substances which are offered to different types of being. Edou comments:

> During the stage of meditative absorption in nonduality, the meditator must face everything that appears, gods or demons, terror, wonders or suffering, in complete equanimity, impassive, "like an elephant that crosses a thorny bush or like a fish for which the waves mean nothing". In fearful places or sky burial spots one must remain seated, as "unmoving as a wooden stake", even if one sees one's own corpse being carried off by demons. (Edou, 1996, p. 49)

As Āryadeva explains in 'The Grand Poem' of the late Indian Buddhist version of chod (tenth century CE):

> . . . if overcome with fear, you should remain absorbed in this fear.
> But if your practice is not right you will run away in panic [chased by such magical interferences].
> Don't flee but remain unwavering, solid like a door frame,
> Even if terror or panic arise. (quoted in Edou, 1996, p. 55).

Low's account of his own practice of chod in the cemeteries of Ladakh conveyed the loneliness, sickness, physical danger, fear, and vulnerability that attended the practice—as aspects of its intensely personal character. Low's account also emphasizes the centrality of meditation to transform fear into liberating insight:

> By cutting out frightening images as they arise the meditator uses the power of the practice to expose the essential emptiness of the danger. When this experience is deeply felt it gives rise to the realisation that there is no danger. The yogin becomes fearless through an ability to see the essential emptiness in the moment of experiential arising. (Low, 1997, p. 321)

Understanding how Chod transforms experience

Transforming the aggregates into food during the practice of Chod raises the question of how meditation and ritual can cause such powerful and vivid experiences of encounters with supernatural agents. Of course, the Chod tradition has its own account of how such experiences arise, as part of a well-established, internally consistent system of interpretation that in its fundamental features extends back over a thousand years. In this sense, as an established tradition of ideas and practices, Chod has no need of perspectives or explanations provided by psychology as understood in the West. However, from the perspective of Western psychology, Chod not only illustrates the potential for experience to be radically transformed, but also draws attention to methods of re-orienting cognition to accommodate otherwise overwhelming emotion linked to attributions of what is real (noting Chod's distinctive view of "reality", which we will consider in this chapter).

From this external perspective, Chod represents an exploration of human experience and practice within the context of Indo-Tibetan Buddhism that provides insights into fundamental psychological capacities and processes, and their relationship to the interpretive systems and practices of its culture. As such, Chod presents Western psychology with information about

unique variants of experience, raising the question of what aspects of experimentally based knowledge of the mind could inform understanding of the efficacy of Chod. Recent developments in hypnosis research and cognitive neuroscience are relevant. Hypnosis research in particular investigates the nature of hypnosis as a set of procedures for producing radical changes in experience, which may involve processes that are comparable to those of Chod. For example, in a report for the British Psychological Society, hypnosis was defined as:

> . . . an interaction between one person, the "hypnotist," and another person or other people, the "subject" or "subjects." In this interaction, the hypnotist attempts to influence the subject's perceptions, feelings, thinking, and behaviour by asking them to concentrate on ideas and images that may evoke the intended effects. The verbal communication that the hypnotist uses to achieve these effects are termed "suggestions." (Heap, Brown, & Oakley, 2004)

"Autosuggestions" are suggestions that are self-administered, while the effects of suggestions themselves are experienced as involuntary, effortless, and realistic (Heap et al. 2004).

Hypnosis and Chod both involve processes by which experience conforms to the content of ideas, images, and expectations established through their respective procedures and contexts. Indeed, in the case of tantra more generally, the process by which the practitioner establishes the forms of cognition and experience specified in a Tantric text, through ritual and meditation, has been termed "entextualisation" (Flood, 2006). This raises the question of the extent to which the respective procedures are similar or overlapping, both in terms of their form (for example, through verbal and non-verbal means of engaging beliefs and expectancies) as well as the cognitive and neural mechanisms by which they alter the content of experience. Hypnosis research can inform identification of potential similarities or shared mechanisms with Chod because of its investigation of psychological processes that influence responses to suggestion (such as motivation to experience suggested effects). Hypnosis research is also relevant because suggestions in hypnosis can be employed to create experimental models of specific alterations in experience that resemble aspects of Chod, which, in combination with brain measurement techniques, provides potential insights into underlying cognitive and brain processes.

Transforming experience with ideas: insights from hypnosis research

Cognitive and social psychologists have identified a range of components or processes that contribute to suggested effects. They include cognitive dispositions such as expectations, motivations, beliefs, and attitudes (Benham et al., 2006; Kirsch, 2001) and, in particular, ideas and expectancies that suggested effects are externally caused (Heap et al., 2001; Kirsch & Lynn, 1997); verbal and non-verbally conveyed imagery; and instructions to experience suggested effects (Hargadon, Bowers, & Woody, 1995). Implicit understanding of role and self-representation, and their association with and pre-attentive activation by hypnotic contexts have also been identified as contributing to suggested effects (Brown & Oakley, 2004; Lynn & Rhue, 1991; McConkey & Barnier, 2004; Spanos, 1991; Spanos & Coe, 1992). Other contributory factors identified by hypnosis research include specific ways of engaging with the content of suggestions, such as processes of imagination and mental simulation of suggested effects (Gorassini, 2004; Taylor & Schneider, 1989); and the relationship between the participant and hypnotist, particularly the trust and confidence placed in the hypnotist (e.g., Gibbons & Lynn, 2010; McConkey, 1983; Sheehan, 1971, 1991).

While researchers differ about the relative contributions of these components to suggested effects, evidence for some contribution has been found for all of them (Heap et al., 2001). This raises the question of whether analogous processes occur in the ideas, practices, traditions, and contexts of Chod, on the premise that similar phenomena have similar causes—specifically, that radical changes in experience conforming to ideas and expectancies in the case of Chod are caused by similar cognitive, contextual, and relationship factors and their interactions identified by hypnosis research as contributing to suggested effects.

Transforming experience through the components of Chod

Determining the relevance of hypnosis research to Chod can be approached by identifying features of indigenous Tibetan accounts of how Chod works which may be interpretable in light of hypnosis and cognitive neuroscience research. Insider accounts of Chod and psychological accounts of hypnosis both emphasize the importance of belief, attitude, and motivation to experience the respective effects. For example, in *Oral instruction for mountain retreats*, Karma Chagme comments that in the practice of Chod,

> . . . mental attitude and motivation are the most important . . . Among all offerings, the offering of the body is the best since one does not possess anything more precious than life and body. Through the practice of Chod, one mentally renounces and cuts through ego-clinging only by the power of one's visualisation. (quoted in Edou, 1996, p. 55)

In a passage with a devotional discursive style, Low also links faith, aspiration, and the will to the power of symbols to transform perception:

> . . . the practice is a ritual enactment which uses identification with the symbolic to shift experience in the perceptual field. Faith is a very powerful and important driving force here for it both opens the practitioner's heart, making him softer, more fluid, and able to let go and change, and mobilises the will through a longing aspiration which permits the reframing of ordinary obstacles into ornaments on the spiritual path. (Low, 1997, p. 320)

Prior vows and preparation within the context of accountability to a lama are critical to establishing strong motivations and expectations to experience the phenomena, representing a more pronounced version of the trust and confidence the participant places in the hypnotist. The power of the lama–student relationship is difficult to understand from a secular or egalitarian Western perspective, but is illustrated in the paradigmatic example of Machig Labdron's response when she met the Indian Mahayogin Dampa Sangye:

> Machig came to Dingri Lakhor and met Dampa Sangye. She made many prostrations to him and circumambulated him many times. Placing his feet upon her head, she acted with intense faith and devotion. (From an anonymous biography of Machig Labdron, translated by James Low and C. R. Lama, in Crook & Low, 1997, p. 304)

There are many other components of the practice of Chod which enlist the power of belief and expectation to transform the content of experience. Chod mobilizes the associations of gods, demons, powers, and forces which formed part of the world in pre-modern Tibet and for many Tibetans at the present time (Samuel, 1995). A culturally conditioned belief in the power and ontological independence of these agents is likely to facilitate responsiveness to the expectation of their presence through practice and location. The construal of gods and demons as independent agents entails that any effects produced by them should be experienced as originating outside the self—in other words, as involuntary, resembling the general schema that suggested effects are

involuntary. Expectations of their presence are partly established through ritualized speech such as invitation to the demons during banquets. For example, in the red banquet dedicated to gods and demons such as lords of the locality, bodily demons, and cannibal demons, the meditator identified with Vārāhī invites them to feast on flesh, blood, and fat:

> I make an offering of this body. May those in a hurry devour it raw, may those with leisure partake of it cooked . . . Eat it the way you prefer, cooked, roasted, or raw. Take as much as your stomach can contain. May the strong ones carry away as much as they can carry . . . Take this offering until nothing remains of it! (quoted in Edou, 1996, p. 52)

Ritual invocations are analogous to verbally administered suggestions (because both establish expectations through ideas and imagery expressed in language and speech). However, many features of Chod which convey expectations, associations, or imagery for the content of experience are non-verbal in character. For example, the location of the practice in cremation grounds or other places with strong associations with gods and demons powerfully evokes expectations of their presence, as is clear from indigenous accounts. As it says in the "Grand Poem" of Āryadeva (ninth century CE), a Mahayogin who wrote of the late Indian Buddhist version of Chod:

> In desolate rocky mountains or among snowy peaks,
> In charnel fields and cremation grounds, in wilderness,
> In villages and towns, in caves and lonely grottos,
> Wherever you may be, meditate on non-duality
> Having moved to desolate spots,
> When magical displays of gods or demons arise,
> Separate awareness from the material body (quoted in Edou, 1996, p. 57)

Ritualized actions within the performance of Chod are also non-verbal, although closely integrated with ritual speech (such as prayers or chanted invocations). These ritual actions include ritualized dance, as well as use of the hand drum and human thigh bone trumpet, so that the practice of Chod is both a cognitive-symbolic as well as sensorily salient motor performance (Irving, 2006; Stott, 1989). Ritual creates a temporal and spatial frame for cognition and action which focuses attention, pre-attentively elicits and links relevant associations, as well as provides cues for specific expectations within the enacted narrative of the practice's text (such as the blowing of the trumpet to summon demons). The cognitive-symbolic features of ritual practice interact with sensory-affective components (such as the orchestration of salient sensory stimuli in different sensory modalities, which engage attention, arousal, and emotion) (Deeley, 2004). The cognitive-symbolic features of the ritual context recall how implicit beliefs and expectancies relating to role and experiential change are linked to the hypnotic context. Low writes of the powerful cumulative effects of ritual in re-orienting cognition:

> During the day in the first month or so it was very hot and sitting inside the tent was exhausting and disorientating. Thoughts and feelings whirled round and round: memories of childhood, recent encounters with the villagers, longings and fears, so many ways to be distracted. Gradually the rhythm of the practice took over. Wake, Chod, prayers, tea, Chod, strike camp, Chod, dance to the next crematorium, Chod, eat, Chod, prayers, Chod, sleep. (Low, 1997, p. 325f.)

Visualization meditation in Chod represents a predominantly non-verbal process through which experience conforms to visual imagery, rather than through the administration of verbal suggestions that is typical of hypnosis. However, the lucid visualization practices of Chod represent a particularly intensive analog of the engagement of imagination and mental simulation

of the content of suggestions as a method of producing suggested effects. (See, for example, the visualization instructions in Jigme Lingpa's text "The bellowing laugh of the dakini," (Lingpa, undated).) As Low writes,

> . . . the practice draws on the power of visualised Buddhist deities, local gods and demons to counteract reliance on the experienced reality of our ordinary embodied existence. To accomplish this, the world of imagination must be merged with the word of ordinary sense perception, the "merely imaginary" becoming more real than the solid appearance of everyday phenomena. The preparatory practices of calming the mind are therefore linked with developing the ability to visualise clearly so that what is constructed by the mind and what appears via the senses have the same level of experiential impact. (Low, 1997, p. 293)

The practice of Chod in cremation grounds or similar places at night is also likely to amplify the experiential impact of the practice, not only by eliciting associations of the dark, but by producing hypervigilance and lowering the threshold for the detection of meaningful perceptual patterns in ambiguous sensory input (Brugger, 2001).

In summary, Chod contains numerous verbal and non-verbal features that communicate or elicit ideas, associations, imagery, and expectations that inform and structure the content of altered experience. These components function as suggestive processes, by analogy with suggestions in hypnosis as verbal communications containing ideas and images to produce intended effects. Aspects of the practice of Chod that are analogous with suggestive processes in hypnotic contexts include ideas and expectancies that anticipated effects are externally caused; verbal and non-verbally conveyed imagery; invocations to experience specific alterations in experience; implicit knowledge of role and self-representation which is associatively linked to and pre-attentively activated by ritual contexts; ways of actively engaging with the content of the practice's ideas, including processes of lucid visualization and identification with the intended objects of belief and meditation; and the power of belief, motivation, and expectation linked to the relationship between the lama and disciple. Nevertheless, identifying features of Chod that contribute to the transformation of experience raises the question of mechanism; in other words, what are the specific cognitive and brain processes by which these diverse components of context and practice elicit experiences of encountering or becoming supernatural agents?

Becoming and interacting with supernatural agents

The sense of self in relation to other agents can vary in numerous ways in the practice of Chod—for example, practitioners undergo numerous identifications with different agents in the course of the practice. As Low puts it:

> During the course of the practice the meditator takes on a series of identifications, becoming a wrathful goddess, a calm purifying god, the fearless yogi. In longer texts there may be over a hundred shifts of personal identification. In this manner the self-referencing function of the practitioner is put into question, for the usual identification with the subjective sense of self, the felt sense of "I," is clearly undermined by the experience of being "another." (Low, 1997, p. 322)

These changes may be accompanied by an experience of spatial and sensory separation from the normal bodily self, now externally envisioned as offered in a series of banquets to different classes of beings. Chod can therefore be understood to operate on two aspects of selfhood distinguished in recent cognitive neuroscience accounts of the self—a "proto-self" referring to the bodily, sensory self; and an "autobiographical self" encompassing reflexive awareness of the self in relation

to others, as a "centre of narrative gravity" (Deeley, 2003; Dennett, 1992; Northoff et al., 2006). Chod establishes a ritually enacted and envisioned narrative with changes in both the bodily self (the proto-self) and the sense of identity (the autobiographical self).

The range of alterations in the experience of self and others are likely to be extensive both within and between practitioners, given variations in the practices themselves, context, personality, aptitude, and disposition, as well as degree of training, supervision, and prior experience. However, experimental cognitive neuroscience can identify cognitive and brain systems that are likely to mediate or underpin broad types of alteration in experience in response to a given practice. Two experiments combining fMRI (functional magnetic resonance imaging) with suggestions, in highly hypnotically responsive participants, are relevant to the extent that they investigate brain systems involved in alterations of the normal sense of self in relation to other agents that resemble (but are not identical to) changes described in Chod.

The first study employed suggestions and fMRI to investigate brain activity when varying the experience of moving a joystick from normal voluntary movement to different experiences of loss of self-control (Deeley et al., 2014). The experiment involved a suggestion that an engineer was conducting experiments into limb movement. In a "delusion of control" condition, which modelled an experience of remote control of movement by an external agent, the engineer remotely controlled hand movements with a machine designed for this purpose. In a "possession" condition, the engineer had found a way to enter the participant's body and mind to control hand movements from within. The participant was aware of the thoughts, motivations, and feelings of the engineer, but unable to control her movements, which were under the control of the engineer. The suggestions resulted in realistic, vivid subjective experiences of the intended effects, and significant reductions in feelings of control and ownership of hand movements. Compared to a condition of impersonal control of hand movement (attributed to remote control by a malfunctioning machine), both external and internal control by a suggested agent was associated with an increase in functional connectivity between M 1 (a key movement implementation region) and BA 10 (a prefrontal region supporting reflexive awareness and self-representation, as well as the representation of the mental states of others) (Gilbert et al., 2006). Also, a condition of reduced awareness of hand movement was associated with decreased activity in brain areas involved in bodily awareness (precuneus, BA 7) and interoceptive sensation (insula), suggesting a mechanism for the loss of awareness sometimes reported in association with episodes of possession or other types of involuntary behavior (Deeley et al 2013).

Cases of spirit possession, where the possessed individual retains awareness of their own subjectivity but is also aware of the subjectivity of an alternate agent assuming control of their speech or actions, are distinct from identifications with a deity occurring in tantra and related practices. However, as Flood (a scholar of Hinduism and Comparative Religion) notes, there is likely to be a historical link between the respective institutions as well as family resemblances at a phenomenological level: "it would be possible to read the history of religion in South Asia in terms of possession as the central paradigm of a person being entered by a deity which becomes reinterpreted at more 'refined' cultural levels." (Flood, 2006)

The "possession" condition of the experiment (in which the participant becomes aware of the thoughts and motivations of the engineer as a new identity that has assumed control of the body) is similar to the sense of identification with the deity established through meditation in Chod. Nevertheless, Chod is different in that the sense of the usual narrative self is intended to be fully lost in Chod, along with an altered sense of bodily location and sensation (because awareness is

experienced as having moved out of the body and transformed into the deity, leaving the physical body as separate). Bearing this in mind, the findings of the experiment suggest that:

1 BA 10 is likely to support representations of diverse supernatural agents, and would also be involved (in conjunction with other brain regions) in distinguishing the novel sense of identity from that of other agents;

2 a reduced or altered sense of somatosensation and an altered sense of the body in space would involve decreased activity in BA 7 and insula.

A subsequent experiment is also relevant to understanding cognitive and neural processes underpinning the kinds of alteration in experience described in Chod.

Suggestions and fMRI were employed to create an experimental model of inspired or automatic writing attributed to an external agent (Walsh et al., 2014; Walsh, Oakley, Halligan, Mehta, & Deeley, 2015). In this experiment, it was suggested that the engineer separately inserted thoughts and controlled hand movements in distinct conditions as participants engaged in a writing task in the scanner. While loss of control of both the thought and motor components of writing were associated with distinct differences in brain activity, both involved reduced activity in the supplementary motor area (SMA). This extended the findings of the initial study modelling spirit possession by indicating that the SMA plays a key role in modulating the sense of control of ownership of both thought and movement. In this interpretation, the sense of loss of control of thought or movement is mediated by reduced SMA activity in conformity with the content of the suggestion, in which causation is attributed to an external agent. Consequently, the SMA is a likely candidate region for mediating alterations in the sense of control and ownership involved in assuming a novel identity such as that of a visualized deity, acting in conjunction with brain systems that support representations or experiences of the novel identity.

This same experiment also found that a "mediumistic" condition, in which additional suggestions were made of reduced awareness of both the thought and motor components of writing, was associated with reduced activation in posterior cortical regions including BA 7 (precuneus and superior parietal lobule)—providing further evidence of the potential involvement of this region in the loss of bodily awareness and sensation sometimes associated with possession and mediumship (Rouget, 1985; Vitebsky, 2001) or loss of feeling associated with the experience of separation from the physical body in the case of Chod. In summary, these experiments identify brain systems involved in alterations in the sense of identity and self in relation to others ("the autobiographical self") and also loss of awareness of the usual bodily self (the "proto-self").

Meta-cognition and the "view"

This analysis of Chod has examined how its visionary alterations of experience when "transforming the aggregates into an offering of food" can be understood as a result of components that have suggestive effects, by analogy with suggestive processes identified in hypnosis research. Brain mechanisms that may contribute to these changes are also identified. However, these experiences are not an end in themselves but cultivated to realize Buddhist goals of compassion, non-attachment, and the direct recognition of non-self and the emptiness of phenomena. In this respect, the philosophical orientation of Buddhism—the view that articulates the doctrine of emptiness—and the related meditation practices that establish the direct recognition of emptiness are a critical component of the practice.

As its commentators and practitioners note, Chod mobilizes a profound sense of fear and vulnerability, centered on the body, to expose deep-seated emotional and cognitive attachments

that—from a Buddhist perspective—must be liberated (whereby their objects are directly perceived as lacking inherent self-nature) (Low, 1997). As Edou explains, the practitioner deliberately evokes afflictive emotions "by entering situations or encountering objects (*yul*) that will make them arise, in order to cut through (*gcod*) them and use them on the path of meditation" (Edou, 1996, p. 41). As such, Chod can be understood as a special method to allow radical cognitive-affective restructuring that cuts habits of subject–object reification (Edou, 1996, p. 30; Low, 1997).

This form of words for construing the objective of Chod is an English language gloss and interpretation of an indigenous Buddhist discourse in Sanskrit and Tibetan with presuppositions that are distinct from those of Western psychology as commonly understood—for example, concerning the nature of reality, cognition, language, selfhood, knowledge, and their relations. For the present purposes, the question of the truth of these respective presuppositions will be "bracketed out," with the Buddhist discourse instead approached as a set of conceptual and practical resources for establishing a distinctive mode of interpreting and experiencing embodied presence and action in the world. This mode is characterized as an "open spacious awareness," and with imagery in which the contents of experience are attended to like "clouds passing through a clear sky" or in which thoughts arise "like a thief walking through an empty house." (See translated texts, such as *The essential point in three statements, being the special teaching of Khepa Sri Gyalpo*, in Low, 1998.) The imagery implies an absent or attenuated sense of a strongly narrativized agentive self, defending and asserting itself in a world of discrete objects and agents. The paradigmatic image of this altered sensibility is that of the seated meditator, but the integration of meditation with emotionally salient ritual in Chod reveals another modality for attaining the direct realization of emptiness.

The meditation practices of "consciousness transference" (Tibetan *'pho ba*) for recognizing the nature of mind or "Opening the gates of space" are distinct from calm abiding (Sanskrit *śamatha*, Tibetan *zhi gnas*), to pacify mental agitation, and the practice of insight meditation (Sanskrit *vipaśyanā*, Tibetan *lhag mthong*) (Edou, 1996, p. 47). Nevertheless, they combine regulation of attention and awareness in the context of lucid visualizations, informed by the doctrine of emptiness (Edou, 1996, p. 47 ff.). They establish a direct recognition of emptiness as the appropriate orientation within which to "cut" attachment to appearances as they arise. They can be considered "meta-cognitive" (about cognition) in the sense that they involve a shift in the quality of attention, awareness, and interpretation brought to all contents of experience. As Rangjung Dorje, the third Karmapa, explains in his commentary to *The great collection of precepts*:

> Those who know this path of action, however vast [and varied] their behaviour may be, are devoid within of any grasping and attachment to reality, similar to a fish moving through the water, and without a trace of emotion like the wind blowing at the summit of mountains. Having thus eliminated all obstacles to their behaviour and actions, and without any regard for themselves, they realise the Prajñāpāramitā. (quoted in Edou, 1996, p. 58)

Texts suggest that the visions of Chod can continue to arise despite establishing a direct recognition of emptiness (Edou, 1996, p. 49). From a cognitive perspective, this implies that the application of these meta-cognitive processes do not alter the cognitive set of dispositions and expectancies that establish the visionary experiences of the practice to the extent that they continue, even if the emotional impact and ascribed significance of the experiences are altered through the dissolution of the habitual sense of self into an "open spacious awareness." Like thoughts, the visions of Chod become like a thief moving through an empty house. The concurrence of

suggested visionary experience and altered meta-cognitive processes recalls Oakley's executive control model of hypnotic phenomena, which distinguishes two main levels in the organization of executive function—a "level 1" system which involves full awareness, limited capacity, analytic processing, and conscious self-reflection; and a "level 2" system, a non-conscious level involved in contention scheduling (selecting and structuring relevant responses to stimuli) and selecting a subset of currently active representations for processing in the "level 1" self-awareness system (Bell et al., 2011; Oakley, 1999). Oakley proposes that "suggestions" such as environmental prompts, verbal information from others, or beliefs, motivations, and expectancies, influence processing in the unconscious "level 2" system. The focusing of attention produced by a hypnotic induction procedure is proposed to facilitate the influence of suggestions on the "level 2" system. The effect of suggestions is available to the conscious Level 1 system as the content of the suggested experience or behavior, but in this model, the processes by which the suggested effects are organized in Level 2 are inaccessible to awareness.

Applying this type of cognitive neuropsychological model of hierarchical processing to the practice of Chod would imply that its suggestive components produce visionary experience through effects on cognition that are mostly unconscious (for example, by imagery and expectancies cueing changes in brain systems that alter experience in conformity with them)—in other words, at the Level 2 system. However, the Level 1 self-awareness system is also reorganized through meditative practice and its interpretive system (the view), with attendant changes in the quality of awareness and the loss of the sense of self as a narrativized subject of experience and agent of action. The notion that the content of suggested visionary experience can persist despite the radical loss of the habitual self is consistent with the notion of relatively dissociable levels of cognitive processing with differing levels of awareness, voluntary control, and influence by intrinsic and extrinsic processes. Meditation in general, and Chod in particular, raise the question of how modifiable the boundaries are between conscious and unconscious processing in terms of the levels of processing that are potentially open to awareness, control, and change. A further question arises as to the nature of the subject of awareness and self-regulation when the habitual narrativized self drops out.

Differences between Chod and hypnosis

In her description of Chod, Alexandra David-Neel wrote of yogins who are "hypnotised by its ritual" (David-Neel, 1992, p.119). This could be taken to imply that hypnosis is quite literally involved in transforming experience through Chod. The culturally acquired attributions and expectations of Chod practitioners may engage similar cognitive and neural processes as the targeted suggestions in the experimental models already described. In this sense, the experiments illustrate and point to the broader human phenomenon of how experience is influenced by beliefs and related cognitive dispositions, and identify brain processes by which such experiential changes may occur. However, the premise that similar phenomena have similar causes does not entail that ritual or meditative practices involve hypnosis. One category (such as ritual, meditation, clinical dissociation, or hypnosis) cannot be reduced to another because all acquire context and tradition-specific meanings, values, and purposes, quite apart from differences of form. For example, the presence of strongly held beliefs and authoritative social practices in religious contexts, as opposed to temporarily imagined scenarios in hypnotic contexts, may affect the threshold for experiencing the respective phenomena, quite apart from any differences in the meanings ascribed to them. Despite points of resemblance or intersection between the processes of Chod and hypnosis, one cannot be reduced to the other (Deeley, 2013).

Epistemology and truth in the encounter of science and religion

Differences in the assumptive worlds of practitioners of Chod and those engaged in hypnosis research and cognitive neuroscience raise the question of how such epistemological differences should be taken into account when interpreting the respective phenomena. From the perspective of cognitive neuroscience and hypnosis research, investigating questions about the nature of mind based on phenomenological reports of Chod practitioners (and other kinds of Buddhist meditation) requires a critical dialog between exegetical or devotional accounts of Buddhist practice and phenomenological and experimental approaches. This is because Buddhist accounts of meditative experience may reflect presuppositions about the nature or content of experience and indeed reality, which form part of the assumptive or doctrinal world of Buddhism, rather than being integral to meditative experience itself. For example, cognitive neuroscience, as usually understood, does not share Tibetan Buddhist notions that awareness can be separated from the body, or that Chod discloses an unconditioned original nature of mind; the idea, as Low puts it, that "in cutting off the body there emerges a direct experience of awareness as independent, autonomous, free of the trammels of cause and effect" (Low, 1997, p. 296). Nevertheless, the conceptual framework of Buddhism and the phenomenology of its meditation experiences cannot easily be distinguished, not least because Buddhist construals of reality are likely to contribute to the meditative transformations of experience of practitioners—as already discussed in relation to Chod. In other words, the exact types of meditative state and epistemic orientation described in Buddhism are unlikely to occur in the way that they do independently of the specific worldview and practices of Buddhism. For example, texts distinguish between different types or degree of reality of different sorts of demon in Chod (Edou, 1996, p. 68ff.) which in itself is likely to influence the corresponding experiences and interpretations of encounter with these demons in the practice.

Cultural and meditative neuroscience must be able to accommodate the contribution of tradition-specific attributions to distinctive types of meditative experience and epistemic orientation, while recognizing family resemblances with other meditative or altered forms of experience which suggest the contribution of more general types of cognitive and brain process across forms of experience and traditions. What may be most challenging here is to understand the relations between culture, cognition, and brain function which distinguish forms of experience and tradition, rather than the identification of coarser-grained shared processes. Equally, cognitive neuroscience, as commonly understood, cannot exclude the possibility that its own assumptive world may be changed by the forms of experience, knowing, and relationship that it encounters when attempting to understand the full extent of human experience and cognition.

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