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EDITORIAL

Climate change has become an important topic in many scientific disciplines, especially anthropology and geography, which are disproportionately represented in the pages of the *Bulletin*. It has also come to be a central focus for scholars working on the Himalayas, which are often represented as a "climatically pivotal Third Pole," to use the words of Ben Campbell in this issue. Because of their crucial function in storing water, regulating its distribution, and effecting climate patterns throughout Asia and indeed the world, the Himalayas have attracted increasing attention from natural scientists concerned with such issues. Scholars in the social sciences and humanities have followed suit, and this issue of the *Bulletin* includes three articles on climate change in the Himalayas from the perspectives of Anthropology, Ethnobotany, and Religious Studies.

Andrea Butcher applies Actor-Network Theory to understand the different discursive responses to climate change in Ladakh. Kamal Adhikari examines how commercialization of the *yarsagumba* or caterpillar fungus, combined with climate change, poses severe threats to its sustainability. Ben Campbell provides an account of the effects of climate change in northern Nepal that is at the same time autobiographical, ethnographically detailed, and a rousing call to action. All three essays provide excellent examples of how the humanities and social sciences are in the midst of a radical re-thinking of the relationship between human beings and their "natural" environments.

Climate change is, however, not the only item on this month's menu. EBHR 49 also contains a fascinating discussion by Seema Thakur and R. C. Bhatt of the "banking" activities of the village gods in Kinnaur, Katia Buffetrille's review of Tenjin Jinba's fascinating book on Tibetan cultural politics, and a lively response by Indrani Chatterjee to a review of her book *Forgotten Friends* by Phillipe Ramirez (also in this volume). Enjoy!

William S. Sax, Editor EBHR

Networks and Practices of Weather and Climate in the Western Himalaya

Andrea Butcher (University of Exeter)

We humans are now an actor in the unfolding story of climate's evolution, alongside the personal gods of the heavens and the impersonal dynamics of the oceans. (Mike Hulme 2010: 120)

The 2010 Disaster

On the nights of 5th and 6th August 2010, the Himalayan region of Ladakh experienced a series of cloudbursts triggering mudslides and flash flooding that devastated local settlements and farmland, leading to an unprecedented loss of life.¹ Officially, the causes were attributed to climatic instability associated with global warming.² But alongside the scientific explanation, both the tragedy and increasingly noticeable climate instability were interpreted locally as signs of *sonam nyamspa*: an era of demerit and decline in the protective capacities of Buddhist rite and ceremony as prophesied by the eighth century Tantric master Padmasambhava (henceforth referred to by the honorific title Guru Rinpoche³). The agents of karmic retribution were the autochthonous supernatural inhabitants of the skies, land and water who — angered by an increase in environmental, ritual, and moral pollution resulting from new forms of livelihood, transportation, and consumption — sent the flood as punishment and warning.

Weather is of increasing concern for Ladakhis. Warmer winters and wetter conditions — including the 2010 cloudburst and the intrusion of the Indian monsoon in 2014 and 2015 — are creating anxieties for local

¹ The regional development administration's official figures give the total loss of life for the Leh District as 233, with 424 people injured and approximately 79 people unaccounted for. The totals include foreign tourists, but do not account for the migrant workers from the states of Bihar and Jharkhand, or from Nepal. (Butcher 2013a: 104; 2013b: 3).

² For example, see 'Climate change behind Leh cloudburst?' *The Hindu*, August 25, 2010, http://www.thehindu.com/sci-tech/energy-and-environment/climate-change-behind-leh-cloudburst/article593902.ece, accessed 15/04/2016.

 $^{3\,} Throughout \, I$ have transcribed indigenous terms according to central Ladakhi pronunciation. I italicise nouns but not personal names.

populations and development organisations. Practical solutions and adaptations developed by local actors combine externally designed sustainability policies and technologies with ritual ceremonies and architectural schemes aimed at subduing malevolent forces and establishing a 'moral climate' conducive to the flourishing of the Buddhist teachings. The result is an assemblage of climate management that connects scientific evidence, sustainable development, moral exegesis, supernatural actors, and practices of 'everyday religion' — defined here as performances of household and monastic ritual and ceremony aimed at removing pollution, restoring blessing, and arresting the decline into an era of demerit.

The article contributes to a wider conversation that anthropologists, geographers, and scholars of environmental humanities (e.g. De La Cadena 2010; Hulme 2010; Popke 2016) are currently engaged in: how to approach climate change as multidimensional, assembled from human and non-human entities, and characterized by diverse ways of knowing. This conversation attempts to move beyond 'climate' as something that can be adequately represented via precise measurements and numerical indexes, international policy frameworks, or the discourses of the Anthropocene, and move towards a consideration of how societies define and experience weather and its condition, asking what these definitions and experiences can contribute to climate debates and responses (Yeh 2016).4 For example, climate change specialist Mike Hulme argues for the need to consider the weather we currently experience as 'the result of this new coproduction between ourselves and the forces of nature' (2010: 120). He asserts the need to rethink climate change in order to accept climate novelty: to think of weather as something that is increasingly variable (with both productive and disastrous effects), so that our responses to it are also variable:

Novel climates are neither good nor bad. They are novel, and we must find ways of imbuing them with meaning, value, and utility [...] As climates change, the variety or volume of weather will not be diminished, but the sequences and patterns of weather and the

⁴ This is not to suggest that science, policy and the philosophies of the Anthropocene are *not* ways of experiencing climate.

distribution of places where different weather occurs will alter (ibid: 120-121).

The conversation concerning how adequately to approach multidimensional climate change pursues three lines of reasoning: how plural epistemologies (ways of knowing) are brought into being through practices; how ontological and material configurations of climate and environment are emergent in the embodied and practical engagement that people have with their environments; and how to develop new kinds of theory and methodology that are 'capable of holding different ways of knowing in tension' (Popke 2016: 3).

In what follows, I consider the 2010 flood (chulok) in Ladakh as the result of an enactment of weather that cannot be measured as a purely biophysical phenomenon. With the advent of the Anthropocene — the proposed epoch whereby humanity becomes the main force shaping the planet's geologic, atmospheric, and biospheric processes — critics have disparaged the human-nonhuman separation that has characterised particular types of knowledge production in the modern era. This separation is responsible (they assert) for producing a mode of social existence in which nature and the environment are depleted of qualitative value. This has triggered moves within the humanities and social sciences to consider approaches to social theory that break down the boundaries between humans and nonhumans — culture and nature. STS scholars address this by foregrounding the connectivities of sociality and materiality, whereby materials, artefacts, and atmospheric conditions or biophysical matter are given agency in an approach to social theory that examines phenomena and experience as webs of networks, actions, and relations (human and nonhuman). Drawing upon the theories and philosophies of Science and Technology Studies (STS) and concepts of hybridisation, I describe a 'climate system' brought into being via the activities of religious authorities and guardian deities as well as local populations, with the associated ritual and ceremonial practices that form part of their daily routines. I also consider the usefulness of thinking through 'modes of syncretism' (Law et al 2013) as a possible methodology for revealing multiple assemblages, or multiple climates, with multiple effects.

The Field

A former Buddhist Kingdom, Ladakh is now a region in the Indian state of Jammu and Kashmir (J&K), although it retains religious links to Tibet's exiled Buddhist monastic colleges. The region is divided into the two districts of Leh and Kargil with predominantly Buddhist and Muslim populations respectively, and the site of my field research was the Buddhist-dominated Leh District.⁵

The evidence for this article is taken from my PhD field research carried out over sixteen months from 2009 to 2012. Based on ethnographic fieldwork in Leh District and interviews with the Central Tibetan Administration (CTA) at Dharamsala, the thesis investigated local attempts to integrate material and sustainable development, democratic government, and a market economy according to doctrinal and ethical principles of religious governance (virtuous action, moral discipline and compassionate consciousness) with its attendant ritual and ceremonial performances. Using observation of monastic festivals, public teachings and workshops, and drawing upon documentary and material evidence collected from formal and informal interviews with administrative departments, religious authorities, civil society organisations and local laity, the thesis examined the encounter between normative development ideology and delivery, and Tibetan Buddhist ethics and ceremonial performance. In Ladakh the reproduction of material and religious life is managed by the laity (in their roles as both farmers or waged earners, and religious patrons), the local development administration, enlightened rulers, transcendental protector deities, sacred technology, and the supernatural guardians of weather, soil and water that dwell within the landscape. The thesis demonstrated the challenges for the development administration in maintaining secular guarantees whilst occasionally having to acknowledge supernatural agency, and ceremonially asking permission to exploit land, divert water or by performing exorcisms to ensure project success (see also Butcher 2015).

Climate entered the picture following the flood, when narratives pertaining to retributive numina, karmic consequence, and the era of

⁵ Muslims also form approximately twenty percent of Leh District's population, together with a very small Christian population. For reasons of space, and given the focus of my doctoral thesis, their voices regrettably are not included in this account.

demerit were observable alongside meteorological explanations derived from scientific empiricism. As an ethnographer conducting fieldwork for the first time, I was surprised how these diverse epistemologies and practices of land management were rarely considered contradictory; rather their seemingly inconsistent logics were 'collapsed' together in such a way that made pragmatic sense to those caught up in the assemblage (Law *et al* 2013: 186). This raised certain questions, for which I found resonance in the field of STS that later influenced the direction of my intellectual enquiry.

Hybridity and Noncoherence

STS scholars critically evaluate the history of objectivity and empirical authority in Western political and philosophical thought, which reached its zenith during the European Enlightenment. They emphasise how objectivity manifests in the practice of science; how it is performed via networks of actors that include institutions, specialised equipment, controlled experiments, budgets, policy frameworks, articles, media reports and so forth (Latour 1993; 2004; 2013; Law et al 2013). Latour (1993; 2004; 2013) asserts that 'nature' and the nonhuman are not empirical givens but categories brought into being via practices that produce an ontology peculiar to scientific objectivity, in which human and nonhuman worlds - the domain of society and the domain of nature respectively - are defined and segregated (purified' to use Latour's term). In this model of reality, nature's and society's respective representatives - science and politics, understood here as particular types of knowledge and practice — are denied the opportunity to cross the boundary and speak for the other. Such separation and purification underpin the international response to climate change according to the evidence and discourses of climate science.

Latour argues that, paradoxically, each domain relies for its establishment and maintenance on the production of what he calls 'hybrids'. These hybrids are composed of practices, performances, and artefacts that mediate between human and nonhuman domains: for example policies that regulate levels of chlorofluorocarbons released into the atmosphere, or regulations governing the keeping of frozen embryos (1993: 1-2). Rather than purity and coherence, there exists instead what Law *et al* (2013: 174) call noncoherence: inconsistent logics

mixed together in nonetheless productive ways. Another way of approaching noncoherence is through assemblages: ensembles of heterogenous social and political practice or heterogenous ways of knowing 'that are not reducible to a single logic' (Collier and Ong 2005: 12). Collier and Ong consider how a range of phenomena that are global in form and mobility (for example, science and technology, systems of exchange, systems of political administration or governance, regulatory systems, and ethical regimes or value systems) are articulated or reconfigured in specific territorial and historical situations they encounter (ibid: 4). They argue that while such phenomena are transmitted globally or transnationally, they display idiosyncrasy when they interact with localised elements upon which the actual form of their practice is contingent. Awareness of these assemblages, processes of hybridisation or noncoherence, and awareness of how they disturb sociality and materiality, opens up a space whereby multiple climates can be enacted. But what exactly do we mean by 'multiple climates'?

Though anthropologists have long noticed that different modes of thought and inconsistent rationalities can occupy the same space (e.g. Tambiah 1990), in their accounts social scientists increasingly foreground hybridisation and mediation: how objects, experiences or situations are manipulated and transformed according to the different practices that generate them, thus producing multiple realities that somehow hang together. Annemarie Mol, in her ethnography of disease and medical practice, argued that the disease atherosclerosis differs ontologically according to the particular medical practice in which it is manipulated — be it in the diagnostics, treatments, patient information leaflets or via laboratory practices — leading her to conclude that it is possible to understand objects and materialities as things manipulated in practices: 'reality multiplies' (2002: 5).

Law et al conceptualise multiple realities by suggesting possibilities for hybrid mediation. They term this conceptualisation 'modes of syncretism', which they develop through the analysis of concrete examples that identify six specific possibilities: denial, domestication, separation, care, conflict and collapse (2013: 177). Each of these possibilities describes a different entanglement of knowledge and practical engagement that produces a particular situation. For example, they examine how inconsistent logics can be collapsed together by observing

how empirical sciences are embraced by the logics of supernatural intervention in Taiwan, whereby the success of medical procedures requires the sanction of local protector deities (ibid: 186). They also consider *conflict* with regard to drilling for oil in the Arctic Ocean off the coast of Norway, in which the spheres of politics, religion and science — which in 21st Century Norway are considered to have different logics — come head-to-head in a debate over potential negative impacts associated with drilling. This raises further questions with regard to exactly what politics, religion and science are considered to be, the proper place for each, to what extent they can coordinate, and how their separation should be managed (ibid: 183-184).

A similar example might be Marisol de la Cadena's analysis of chthonic participation in contemporary political activism, in which she investigates and discusses the appearance of supernatural beings in social protests against neoliberal expansion in the Andes. She calls this 'indigenous cosmopolitics: a form of politics that brings together [the inconsistent logics of] indigenous ontologies and the divergent worlds of scientists, activists and so forth that aim to speak for a new politics of nature' (ibid: 346). De la Cadena provocatively suggests that conceptually, cosmopolitics accepts 'nature' as multiplicity (ibid: 349), thus disturbing the purified realms of human and nonhuman. Whilst De la Cadena's article is an account of [cosmo]political activism, it is this concept of multiplicity that is useful for the current article's argument.

Purification

Ladakh makes an interesting case study because geomantic rebalancing (for example, the construction of temples and sacred architectural schemes at strategic points in the landscape to prevent disaster, see Butcher 2015), ritual performances of subjugation and purification of local deities, and the relationships between humans and their chthonic neighbours are considered in political or development contexts neither administratively nor in academic scholarship. This is surprising given that earlier ethnographic accounts focused on such relations (eg Day 1989; Mills 2003; Phylactou 1989), and that they appeared in critiques of development in other Himalayan regions (e.g. Campbell 2010; Yeh and Coggins 2014). There are clear reasons for this: in the eastern Tibetan provinces chthonic inhabitants form part of the resistance to Chinese

occupation and the Communist Party's environmental regulations and hegemonic development management. They protest against land exploitation and the loss of both territorial and embodied sovereignty, for example by sending disaster or disrupting weather (see Yeh and Coggins 2014). By contrast, in Ladakh's Leh District, the Indian Union provides border security, resources, opportunity and wealth. Even when the state is publicly criticised for transforming Ladakhis from proud, self-sufficient agriculturalists to culturally impoverished dependents, this is done through discourses of normative sustainability, or of the ideologically reformed 'Buddhist modernism' (Bechert 1984) with its rejection of worldly ceremony, and in which propitiation of spirits is relegated to the realm of 'superstition' and 'incorrect practice' in favour of the more 'rationalised' descriptions of religious practice (similar to the kind identified by Weber [1930] in his analysis of rationality and a particular kind of ethic found in Calvinist Prostestantism, which foregrounded disenchantment and efficient resource use).

In addition, a narrative of Buddhist Ladakh was constructed by earlier visitors to the region (e.g. Crook 1980; Norberg Hodge 1991), which reified it as the quintessential sustainable society, living in harmony with nature due to its spirituality based upon the Buddhist teachings (popularly portrayed less as a religion and more as a rationalised, secular philosophy). This narrative has been appropriated by the local development administration, forming the basis of its vision for development (LAHDC 2005), and for which it has historically received substantial external support. At the same time, it is also necessary for Hill Councillors and NGOs to separate development and religion in order to conform to the Indian Union's constitutional secularism. All coalesce to produce a political identity in which it is politically expedient to place less emphasis upon the agency of the wider cosmology within which social life occurs.⁶

Interdependence and 'Green' Identity

Toni Huber (1997) coined the term 'Green Tibetans' to describe the Tibetan exiled government's reification of what he recognises to be a political identity thoroughly modern in character, but which claims a

⁶ Although in practice they are unable to ignore it completely. See Butcher 2015.

continuity with the past by maintaining ancient 'traditional' practices of climate and environment management. These practices are expressed according to the modern separation of human and nonhuman worlds, and an idealised relationship between Buddhism and sustainability that is presented on the global stage. One of the ways in which this continuity is articulated is through the Buddhist doctrinal principle of pratityasamutpada, or dependent origination, which explains how phenomena do not exist independently but are in dependent or mutual causation with other phenomena, and it is from these dependently originated causes and conditions that positive or negative karmic consequence arises. In the construction of the 'green' political identity, pratityasamutpada is associated with scientific and moral discourse of climate management and environmental sustainability, where it is rationalised as a 'cause and effect' relationship more commonly represented in the empirical sciences, connecting scientific evidence of environmental degradation with the secular moral imperative for protecting the natural resource for future generations. For example, the Karmapa Rinpoche, exiled head of the Karma Kagyu teaching lineage writes:

As I grew up and began studying Buddhist philosophy and teachings, I discovered great harmony between Buddhism and the environmental movement. The emphasis on biological diversity, including ecosystems — in particular, the understanding that animate and inanimate beings are parts of a whole — resonates closely with Buddhism's emphasis on interdependence...I greatly appreciate the concept of sustainable development, defined by the World Commission on Environment and Development (1987) as 'meeting the needs of our present generation without compromising the ability for future generations to meet their own needs.' After all, if the concept of reincarnation proves to be true, we are the future generation. (HH Seventeenth Gyalwang Karmapa 2011: 1094-1095)

Connecting interdependence to sustainability is evident in Ladakhi development ideology, whereby Leh's development administration and religious leadership have successfully appropriated the sustainability

narrative into a framework for development that aligns it with Ladakh's cultural values: a narrative in which Buddhist ethics predominate despite the religious composition of a district that includes Muslims and Christians. Local historian and Buddhist scholar Tashi Rabgias has been instrumental in creating this connection between Ladakhi cultural values, Buddhist exegesis, and the discourse of sustainability (1986; 2004; 2009). According to Huber (1997: 110), Rabgias' presentation for the Ecology and Principles for Sustainable Development, hosted by local sustainable development NGO Ladakh Ecological Development Group (LEDeG) in Leh, 1986, was the first recorded instance where the theory of dependent origination was used to describe the interrelationship between ecology and human society:

The Buddhist worldview is that of the interdependence (or *pratityasamutpada* in Sanskrit) of all things, which means that phenomena come into being through the interaction of various causal factors ... Both Western ecology and Eastern Buddhism recognise this relationship and interdependence ... (Rabgias 1986: 69).

Rabgias continued by explicitly connecting the principles of dependent origination, expressed here through the Buddhist teachings of compassionate consciousness, with ecology:

Another teaching of Buddhism is to have love and compassion for all living beings ... When one has love and compassion for all living beings, naturally one takes care of the plants and crops which sustain living beings ... All these elements are interlinked, sustaining and supporting one another. In the Mahayana Buddhist culture, the law of interdependence did not remain confined to the intellectual community of Sangha or monks or laymen, it has come down to the level of the common man ... Buddhists have lived according to the principles of ecology as a result of the Buddha's teachings (Tashi Rabgias 1986: 68-69, original emphasis).

Such narratives have influenced the missions and projects of local development organisations who, concerned that planned development

is being delivered in an environmentally and culturally unsustainable manner, seek to redress the balance through the delivery of externally-designed sustainable development projects. LEDeG articulates its mission as follows:

With our primary mission as the promotion of ecologically and socially sustainable development which harmonises with and builds upon traditional Ladakhi culture, we have set out the following as our aims and objectives:

- To encourage awareness in the people of Ladakh about the need to consider the long-term effects and impacts of conventional development, the environment, ecology and culture.
- To encourage awareness amongst the people of Ladakh about the potential value of traditional culture, agriculture and conservation for the future sustainable development of Ladakh.
- To encourage the use of perpetually renewable natural resources in Ladakh.⁷

Despite this linking of Buddhist values with environmental sustainability, Leh's development employees were reluctant to admit that they engaged with the ritually transformative and chthonic elements of Ladakhi social life, as they did not want to contradict the Indian Union's constitutional secularism and the formal separation of state and religion. This is an example of a mode of syncretism that Law et al label denial: a refusal to recognise what does not cohere (2013: 189). This particular syncretic mode is foregrounded when 'the system [in this case, Leh District's development administration] neither sees nor cares about any of the messy processes needed to [reproduce social life] work in the first place' (ibid: 178). This denial of the cosmopolitical also refuses supernatural entities the opportunity to participate in the management of social and material productivity, of which development activity and climate interventions now form a part. NGO mission statements and PR materials do not discuss Ladakh's culture and values

 $^{^7}$ For the complete list of points, visit http://LEDeG.org//pages/about-us/our-mission.php, accessed 03/03/2016.

in terms of religious or cosmopolitical symbolism or practice, and during interviews development personnel took pains to reinforce the secular nature of their projects, expressing neutrality with respect to religious engagement.

Two further modes of syncretism are also in play. On the one hand, by self-consciously aligning the doctrinal principle of *pratityasamutpada* with ecological interdependence, the principles of Ladakhi sustainability represented in development discourse maintain the separation and purification of nature and politics as discussed above. Ecology and the sustainability discourse are woven together with Buddhist principles, philosophies of karmic cause and effect, and written into regional development policy and NGO missions as a way to respond to and prevent climate change. This could be considered an example of *domestication*, whereby two qualitatively different — even conflicting — contexts are purified, rationalised and rendered commensurable (ibid: 180). However, the NGO statements and development policy documents do not say a great deal about the *performance* of karmic consequence and sustainability.

Buddhist Ladakhis make sense of climate management by invoking the cosmopolitical; in addition to sustainable development delivery they find solutions in rituals to pacify local deities and geomantic taming. Here, the mode of syncretism *separation* proves useful (Law *et al* 2013: 180), whereby the practices of administrative and ceremonial governance are divided out, and can coexist as long as they are not brought together, at the level of public discourse at least (ibid: 182). This was the situation I observed following the 2010 flood.

The Flood

My research problem was directed towards finding evidence of ritual and ceremonial activity operating in the region's development sector: I was interested to see whether the introduction of managerial systems of governance had eroded ritually prescribed codes of conduct across the entire population. As stated above, Ladakh has been idealised as the quintessential sustainable society and model of alternative development (e.g. Norberg-Hodge 1991). This idealisation underpins the regional administration's planning and management of development. Development and ceremony are discursively separated in this particular

model, although (as will be shown) this separation is difficult to maintain in practice. Initially, I struggled to find any connection between managerial and ritual governance. My informants seemed reluctant to admit that the chthonic guardians were affected by development activities, asserting that they (their supernatural neighbours) were indifferent to the introduction of planned development. Others however (including those who initially dismissed the activities of the guardians) would state that the chthonic inhabitants were being impacted by pollution as a result of development, and they were becoming more unpredictable. Respondents were concerned that development was not progressing in a way that was environmentally or culturally sustainable, despite statements to the contrary. They would express fear that the water spirits (lu) and landlords of the earth (sadaq) were displeased. Activities were taking place without the express permission of sadaq, and people were no longer taking care to keep springs clean, much to the anger of the lu who respond by sending illness. The young monks of Ridzong monastery in upper Sham commented on how development affected the chthonic inhabitants' disposition. They stated that the *lha-lu* consider development to be bad, and that they were becoming very dangerous as a result. One monk mentioned an incident of flooding in 2008 that affected the upper Sham area, which he linked to the activities of the lha-lu.

AB Do the local deities like development or do they think it is bad?

Monk They think it is bad.

AB How do they show their anger?

Monk They can be very dangerous. They can cause skin problems, eye problems, not speaking, not walking [paralysis]. Lamas and onpo need to make puja to make sadag good.

AB Are they making bad things happen with the weather?

Monk Yes, sometimes. If people don't keep the spring water clean then they cause rain and floods. Last year [2008], there was a big flood. It destroyed roads. The school was destroyed but now it is repaired. (Interview Transcript, 18/02/2010)

In the wake of the larger and more destructive 2010 flood, the expression of these fears became noticeable, and activities aimed at taming the angry supernatural guardians and restoring blessing in order to ensure a favourable weather conditions were becoming increasingly visible.

Angry Gods and Karmic Consequence

The meteorological explanation for the flood described an intensive convective system that developed in an easterly current associated with the monsoon conditions. This system had travelled up from Nepal and the Indian plains, intensifying as it did so before bursting over the region (Leh Disaster Management Plan 2011: 16). Following the devastation, two prominent spiritual leaders, the Fourteenth Dalai Lama and the Twelfth Drukchen Rinpoche (exiled spiritual leader and head of the Drukpa Kagyu school of Tibetan Buddhism), visited the region to assess the damage, and to offer prayers, teachings and advice. Whilst the Dalai Lama advised Ladakhis that they should consider climate change and disaster as worldwide phenomena, Drukchen Rinpoche was less magnanimous. He told Ladakhis that the flood was borne from accumulated negative karmic consequences (lasqyudas) resulting from a reduction in correct moral and spiritual observance, and emphasised that correct spiritual practice and maintenance of ethical discipline needed to be observed if disasters such as this were to be prevented (see below). Similarly, Togdan Rinpoche — a powerful ritual specialist skilled in the art of geomancy and divination, and spiritual head of the Drigung Kagyu lineage of Tibetan Buddhism in Ladakh — emphasised the negative quality of the mind in the era of demerit, and warned of the danger of increasing material attachments: 'People have to collect good karma and make their hearts good, otherwise the elements may clash and different types of evil will happen. The merit from earlier times has finished' (interview transcript, 03/12/2010).8 The majority of my lay respondents identified the *lha-lu* — chthonic guardians of weather, soil and water — as the agents of the flood, or chulok. Their fury was attributed to human action, which had contributed to a dangerous accumulation of ritual pollution and its grave result.

8 See also Butcher 2013a: 112.

In Himalayan Buddhist sociology, the state of nature — whether accommodating of, or destructive towards, human endeavour — is conceived of in terms of moral and binding relationships of obligation between localised human populations and the non-human inhabitants of the same locations (Huber and Pedersen 1997: 585). If friendship and protection are to be maintained, humans are required to perform activities that preserve or replenish stores of the blessed essence chinlab, and avoid or remove the ritually polluting essence dip. Situations that produce ritual pollution offend the *lha-lu*, who become angry and dangerously retributive. Mountain deities who are bound by powerful ritual specialists as guardians (choskyong or srungma9) of the Buddhist doctrine are offended by activities that contravene Buddhist codes of conduct and are thus *morally* polluting. In the flood testimonies that I recorded, the dominant causal themes leading to chthonic and karmic retribution were increasing selfishness, less faith in the monastic authorities and their teachings, and greater exploitation of natural resources in a modern economy:

His Holiness [the Dalai Lama] has said that this could have happened because of the friction among the people...the *lha* [mountain guardians] were not happy with the people's way of life, so therefore people need to rectify their way of living. They need to be leading a better or good life; they need to respect the religious areas; they should not pollute the areas where there are *chorten* and monasteries, as this can disappoint the *lha* and then eventually could cause another disaster (Phuntsok, male, 40. Choglamsar, 22/10/2010).

Contraventions of Buddhist codes of conduct are attributed to transformations in economy and livelihood resulting from the introduction of planned development:

The fury of the *lha-lu* [caused the flood]...[in the past] when people dug a little water place for things, they would think a lot. But

⁹ It is important to maintain the distinction between worldly protectors (*jigten pa'i srungma*) who can assist with worldly activities, and transcendental protectors (*jigten las das pa'i srungma*) who are objects of Buddhist refuge.

nowadays they are making a pond here, a pond there, for their profit motives. So for the *lha-lu* it is very certain they would be angry We can very clearly see people earlier, they would not be selfish at the cost of material things. But today people have lots of things, all types of material; still they want more, more selfish with more material and money...So now people are not looking for *chima* [the next life]. They are not taking care of *chima*. They want to do everything here (Sonam, 50s, female. Sabu, 19/12/2010).

Informants would then connect this to the era of demerit, asserting the flood's arrival to be accordance with Guru Rinpoche's prophecy:¹⁰

... in Buddhism we know because of Guru Rinpoche. So he had written kind of a theory that this time will come... We believe that Guru Rinpoche, what he said, has come true... the time is coming.. Floods and everything are coming (Stanzin, male, 20s. Leh, 18/11/2010).

A monk scholar from Sabu explained how in earlier times people understood that natural features were the homes of area protectors, and so would 'do many things' to keep them happy. They would offer juniper smoke (sangs) to remove the pollution that offended them. They would ask permission and ritually prepare the ground before exploiting the soil for agricultural or construction purposes (including the construction of temples), or when diverting water for irrigation. The monk scholar expressed unease at the neglect of such activities (which he attributed to the advent of development interventions and tourism) and stated that with the introduction of new technologies and transportation came new forms of pollution. Similarly, Togdan Rinpoche warned of increasing anger of the deities as a result of a reduction in merit:

It's the people's karma. When people have high desire, when they are angry, full of negativities, then it is karma. . . They have to believe, they have to respect the protectors. But they [the

¹⁰ As detailed in the hagiography, *Padma bKa'i Thang*.

protectors] are not respected, they are all angry. So because of the negativities these things happen. . . (Togdan Rinpoche, interview transcript, 03/12/2010).

Such narratives echoed the concerns of NGO and development personnel, anxious that development was not progressing in culturally or environmentally sustainable ways. However, the testimonies of flood victims and spiritual leaders are notably different from those offered by the development administration. Rather than conceptualising cultural and environmental preservation according to the notions of rationalised sustainability that underpin development and climate interventions in the region, the physical results described by the flood victims and spiritual leaders are instead conceptualised in terms of an interdependence that is contingent upon practices, performances, artefacts and nonhumans that Buddhist Ladakhis depend on to make nature and weather real. When I scrutinised the evidence from my fieldwork, an assemblage of climate that connects development, economy, morality, supernatural actors and practices of everyday religion began to form.

Increasing Communication

Earlier ethnographies report an increase in guardian deities attempting to possess human bodies (Day 1989; Kressing 2003; Srinivas 1998). Some of these possessions may reflect the profitability of oracle consultation as a business venture (Day 1989). However, testimonies also link the increase to social transformation and signs of a degenerate era (Kressing 2003: 9-10; Srinivas 1998). Day (1989) and Kressing (2003) suggest that the rise in oath-bound deities attempting to possess human bodies may stem from a desire on the part of the gods to fulfil their oaths to protect the Buddhist teachings and to prevent a decline into *sonam nyamspa* (the era of demerit) — although both also state how, during their fieldwork investigations, Ladakhis were unclear whether the increase in gods possessing bodies was for the purposes of protection, or an increase in 'bad' gods (those not bound as guardians of the Buddhist faith) as a result of less *chinlab* (Day 1989: 268; Kressing 2003: 9).

In the unfolding story of the flood and its causes, one particular case of communication stood out. In the course of a visit to a local *amchi*

(practitioner of traditional Tibetan medicine) one afternoon in October 2010, our conversation unsurprisingly turned to the flood that had occurred two months earlier. I asked him how it had affected the region where he was stationed at the time: Lalok, a valley in the Changthang region of Leh District. The *amchi* recounted an intriguing story.

When possessing his oracle in February 2010, Taklha Wangchuk — a local mountain guardian and Buddhist protector - had warned of imminent disaster. He cautioned residents that as a result of accumulated dip (ritual pollution), the chthonic inhabitants were displeased and becoming increasingly volatile. Taklha Wangchuk advised residents which ritual purifications should be performed, and under the auspices of Togdan Rinpoche (born in the Lalok valley), they performed the required sangs as instructed. Later that year, when the clouds did burst over the district, Lalok was spared the devastation that occurred lower down the valley. This — the *amchi* told me — was a direct result of the ritual action performed by Togdan Rinpoche in response to Taklha Wangchuk's timely warning. I have written about this mountain deity's prophecy and warning elsewhere (Butcher 2013a, 2013c). For purposes of this discussion, I wish to emphasise the significance of this episode for the theme of this article: hybrid climates and how they are produced.

Taklha Wangchuk's shrine (*lhato*) is near the village of Durbuk, Lalok. *Lhato* are cleaned annually during *losar*: New Year, which for Ladakh is held in the tenth month of the Tibetan Calendar (usually some time in December according to the Gregorian calendar). *Losar* is the time when villagers clean their gods' homes, bringing fresh juniper and renewing the contents of the ritual container inside. While this is happening, the gods occupy their oracles, who act as temporary homes while their permanent ones are being renewed. During that particular *losar* I had the opportunity to interview Taklha Wangchuk through his oracle whilst his *lhato* was being cleaned. We discussed the causes of and reasons for the flood, passages of which I reproduced below:

I predicted how to prevent [the flood] happening this year, but people did not listen to what I said. I said how to prevent it, particularly by doing sangs *chodpa dang sangs gya* [local and

regional-wide smoke offering]. If people had done these before, it could have been prevented.

The reason [for the flood] is because the atmosphere and environment are dirty and polluted (*ts'itu*). Future development should be through peace, not through competition. You must follow the *lamas'* instructions. If you are in competition and chasing money, this is not a good indication. Guru Rinpoche prophesised [the need] to listen to his predictions and what he said...They [Buddhist Ladakhis] should recite [his mantra] and perform *sangs*. This will prevent future disasters (Durbuk, Changthang, 08/12/2010).

As with the testimonies cited previously, the causes of the flood and poor climate are connected to increasing ritual pollution that results from unsustainable development activity and a decline in correct moral behaviour. That the climate is becoming unstable — even dangerous — is attributed to negative karmic consequence resulting from increasing material and moral pollution, which anger the supernatural guardians of weather and water. As agents of karmic retribution, they send disaster. This corresponds to a narrative of demerit and decline — Guru Rinpoche's prophecy of sonam nyamspa: the era of demerit — of which climate change is understood to be a sign. The condition of nature and weather are determined by the actions and interventions of humans, correct moral behaviour, and supernatural actors.

Restoring Blessing as Disaster Response

Thus far, I have focused attention upon the relationships between humans and supernatural beings. The friendship or wrath of the chthonic weather makers towards humans is determined by the latters' activity, to which their supernatural neighbours respond accordingly.

Chthonic beings may be able to determine the condition of the weather, but they can be subdued and controlled by the *tulku*: enlightened custodians of specific teaching lineages. *Tulku* can be monastic or non-monastic; skilled in tantric meditation, they possess the ability to harness power from a separate plane of reality. This power is then used to counter the indications of *sonam nyamspa* by reestablishing ritual protection, restoring blessing (*chinlab*) and providing

opportunities for the local laity to accumulate merit (sonam). Tulku are known to possess substantial abilities of mental intuition enabling them to detect the presence of negative geomantic obstacles, determine the classification of deities, exorcise the demonic ones, and bind the higher classes of deities as guardians of the Buddhist doctrine (Mumford 1989: 84). Tulku are believed to take rebirth in domains to which they have a karmic connection; for example when human inhabitants pray for their return, or during times of misfortune or political strife in order to rebalance negative obstacles, subjugate demonic forces or enemies of the teachings, and restore peace and blessing. In the wake of the 2010 flood their skills were called upon, as initiatives to remove pollution and restore blessing proliferated.

Local households sponsored exorcisms and ritual purifications, which were performed by lay and monastic specialists of ritual intervention in order to remove negative spiritual powers and to ask local guardians to cease their malevolence. Sponsorship of the construction and consecration of devotional objects also proliferated; their function being to heal territories by rebalancing negative geomantic forces, to restore blessing, and establish a domain where the Buddhist teachings could flourish, thus generating peace and happiness, and ensuring the success of social and material productivity of which development and conservation interventions now form a part. *Tulku*, with their ability to interpret geomantic cartography and to intuit the presence of negative obstacles, are responsible for ascertaining where to locate such ceremonial architecture.

For example, in 2011 following advice given by the Nechung Oracle (the State Oracle for the exiled government and worldly protector of the Dalai Lamas) a large *chorten* (Buddhist stupa) to prevent future disaster was built and consecrated just outside of Leh town, on the Khardzong road leading to the Nubra Valley. This is an example of a geomantic solution to climate change and disaster prevention, sponsored by local households and businesses, and prepared under the guidance of powerful *tulku* and geomancer, Togdan Rinpoche. A further example is the construction and consecration of a 100 feet tall Maitreya statue at Disket monastery in the Nubra valley. The decision to build the statue was partially in response to unpredictable weather conditions and water supplies that the region has recently experienced. Such technologies

have a positive effect upon the moral 'climate': calming the minds of the human and supernatural inhabitants of the domain and reviving their commitment to the teachings (something that residents of the Nubra valley attested to following the Dalai Lama's consecration of a 100 foot gold Maitreya statue just days before the flood). In addition, ritual architecture or technologies provide the laity with opportunities to accrue merit by performing circumambulation and prostration at these sites. Such merit-generating activities work to keep blessed powers active. In this particular enactment, it is a combination of geomantic rebalancing, improved mental conditions (human and chthonic), and correct moral behaviour that will — if all goes well — convince those in control of weather and climate to improve its condition. The proliferation of temple and statue construction continues apace.

But in what ways do climate science and sustainability discourse connect with these moral climates and merit-generating activities? How does climate science contribute to a proliferation of climate scenarios? Interesting hybrids that connect the discourse of sustainability to moral and autochthonous understandings of climate management are beginning to emerge, and here I want to describe one such example I observed: a tree planting attempt at Changa Village on the Indus River in October 2010. Over 9,000 people participated in the record-breaking attempt, in which 50,033 trees were planted in 33 minutes. The event was organised by the charity "Live to Love International," of which the Twelfth Drukchen Rinpoche is the founder and ambassador. On its webpage, "Live to Love" describes itself as a movement with 'a secular philosophy that encourages communities to use kindness and wisdom to heal the modern world's challenges \dots . $^{'12}$ One of these challenges is the promotion of environmental sustainability and education, achieved through the delivery of projects that include tree planting ceremonies and the undertaking of 'Eco Pad Yatras': religious journeys taken on foot, which also function as environmental education outreach programmes to remote areas to educate locals on the importance of

 $^{^{11}}$ The valley received the same heavy rains but no flooding - a favourable outcome believed to result from the statue's presence. For a fuller discussion, see Butcher 2013b: 180-183.

¹² http://www.livetolove.org/about-us/, accessed 15/06/2016

sustainable living practices.¹³ Drukchen Rinpoche's 'green' credentials are well-recognised: in 2010 he was honoured with Toyota's 'Green Hero' of the year award in acknowledgement of his global environmental leadership.¹⁴

However, elements of a mode of syncretism called "collapse" by Law et al (2013) are also in evidence with the blending of scientific empiricism, merit generation and karmic consequence. In this syncretic mode, there is little concern with epistemological purity; rather, noncohering techniques are tried and tested to see which combination provides the desired result (ibid: 186). I witnessed this blending during Drukchen Rinpoche's offering of a long-life empowerment (tsewang) that followed the record-breaking tree planting attempt, and the speech that accompanied it:

The world is very warm; we need to cool it down by planting trees. Rather than cutting the forests, we should create forests. . . This is one of the initiatives we have started . . . Everywhere in the world floods, disasters and many types of disease are coming. Even in Ladakh this year we have had a flood the like of which has never been seen before in Ladakh. This happened because of our wrong practice; because promises (tamshig) are not kept. Because of the wrong practice, rain and snow are not falling on time. Because of the wrong practice there is no water at the time we need it. Rain and snow fall untimely.... . has to have changchub kyi sems [compassionate consciousness]. When you have changchub kyi sems you will serve both the physical world and chos [the teachings] (HH Twelfth Gyalwang Drukchen Rinpoche, 10/10/2010). 15

Drukchen Rinpoche's discourse resonates with the mythical narrative of decline and demerit. In his speech, he emphasises the suffering that results from a lack of correct practice. Through the offering of the *tsewang*, he connects sustainability and ecology with ceremony, whereby

http://www.livetolove.org/the-5-ventures/environmental-sustainability, accessed 15/12/15.

 $^{^{14}\,\,}$ http://www.livetolove.org/what-s-happening-sidebar/170-our-founder-honoured-asgreen-hero, accessed 15/12/15.

 $^{^{15}}$ Many thanks to Marianne Petrea-Jakobson for sharing the translation of this teaching with me.

the participants receiving the blessing are — in principle at least — oath-bound to revitalize their commitment to the Buddhist teachings through practices of sustainability. Although he did not directly invoke a relationship with chthonic inhabitants in his speech, those attending the ceremony expressed their pleasure at being given the opportunity to participate in the tree planting, extolling the environmental benefits and cleansing effect the forestation would have upon the domain. In this enactment, planting trees reduces the negative pressures of modern lifestyles on the environment in an era of climate insecurity, while also becoming a contemporary form of merit-generation.

The Ladakhi Cosmopolitical

In material written for foreign audiences, Tibetan Buddhist spiritual scholars connect the doctrinal principle pratityasamutpada — dependent origination — with climate instability and the need for ecological protection. According to Buddhist doctrine, karmic consequences arise from dependently-originating causes and conditions, but when invoked in the context of ecology and sustainability there is a tendency to interpret pratityasamutpada as consistent with or even founded upon European philosophical and theological tendencies to separate humans and nonhumans, with agency being a characteristic only of the former. This usage diverges somewhat from the indigenous Himalayan Buddhist interpretation of interdependence that describes a set of beliefs pertaining to the reading of signs and omens, and the forms of divination performed to produce favourable results (Crook 1998: 35; Samuel 1993: 191). The Tibetan term for this is tendrel. One of the ways tendrel can be observed is via the emergence of karmic links between being and domain over many ages and life times: for example karmic connections that establish polities of territory, tulku, and worldly protector deities (Mills 2003: 288; Samuel 1993: 447-449). In this conceptualisation, interdependence explains the abilities that tulku have acquired through the perfection of tantric meditative techniques to take rebirth in specific forms or territories, to intuit spiritual powers, read omens, and manipulate circumstances.

Tendrel more accurately represent the local cosmopolitical framework introduced above, whereby local practices of geomancy and deity pacification combine with Buddhist epistemologies and ontologies

of karmic consequence, which are used to interpret localised events or conditions: for example the condition of the weather. But influential versions of Buddhist modernism and the secular politics governing sustainability programmes remove the cosmopolitical (and the various relationships and interactions within it) from the realm of social activity: the human and nonhuman realms are purified and separated. As a consequence, Buddhist doctrine is domesticated by development underpinned by the sustainability model in order to render it commensurable: it is consciously aligned with a rationalised interpretation of karmic cause and effect that has been appropriated by Ladakh's development administration and authors of popular writing intended for external audiences (e.g. HH Seventeenth Gyalwang Karmapa 2011; Rabgias 1986; 2004; 2009). The epistemology of cause and effect is also domesticated: karmic consequence is rationalised so that it is made to cohere, and thus support, the political identity of the 'green Tibetan' (Huber 1997) as the quintessential 'ecological native'. The attempt to arrest climate change and prevent further suffering is undertaken through appeals to material cause and effect, manifested in the delivery of sustainable development projects and moral imperative to protect nature for future generations.

If, however, one accepts that in the daily life of most Ladakhis, weather is not considered to be independent of a wider *moral* climate, what implications does this have for the effectiveness of climate and conservation interventions that privilege scientific rationality, or that are determined by an incompatible (noncohering) policy model? What modes of syncretism are available which allow the cosmopolitical, the scientific and policy to hang together?

As Law *et al* note (2013: 187), modes of syncretism are not mutually exclusive. They blend together in ways that allow for a variety of interdependent relationships. Specific locations (administrations, monastic authorities, or village pragmatic practice) may be committed to some variant or other, meaning one mode becomes the dominant or overall way of ordering. But Law *et al* suggest looking at the 'ecology of syncretisms' embedded in specific locations or empirical examples (ibid: 188). For example, denial can also include separation: the development administration separates the practices of everyday religion, undertaken to ensure favourable climate, by publically *denying* — or at least refusing

to acknowledge — the existence of such practices. However, when located at the site of local weather-making, non-cohering techniques and practices denied and separated at one location are simultaneously collapsed or mixed in experiments to find solutions at another location: the science of sustainability is combined with the ceremonial performances of cause and effect (for example the offering of the tsewang), and epistemological purity is disregarded in favour of an approach to climate intervention that will produce the most effective result.

A further example is how the flood and climate instability are considered to be signs of sonam nyampsa. In the narrative of decline, scientific and karmic explanations blend to describe causes of misfortune. Scientific explanations are not rejected (although older rural people may not be aware of them), rather climate change is a result of negative karmic consequence, with karmic justice being delivered by the chthonic inhabitants. Similarly, responses and adaptations follow a similar ecological pattern: in the tree planting ceremony, the narrative of sustainability connects with older performances of climate management in a larger web of explanation that — in post-flood Ladakh — privileged the narrative of degeneration. Other examples include geomantic solutions and ceremonial purifications, which operate separately but alongside other types of climate and disaster interventions.¹⁶ In these examples, qualitatively different practices that were separated at the site of administrative governance are collapsed in such a way so that they make sense to those caught up within the assemblage: they are necessary to protect against future disaster and influence the condition of the weather. Thus, they are rendered commensurable in a process of domestication that depends upon this particular syncretic mode of collapse for finding solutions to combat climate instability.

As Himalayan regions respond and adapt to climate instability and the unpredictable situations it produces, more research will reveal more empirical examples that can be examined for additional hybrids, assemblages, or modes and ecologies of non-coherence. What this

¹⁶ Although arguably, ceremonial practice may be necessary to ensure the successes of climate and conservation interventions based upon normative sustainability principles. See Butcher 2015.

discussion has aimed to depict is how the power harnessed through meditative technologies, the Buddhist teachings and the teachers that guard them, ritual and geomantic technologies, blessed and polluted essences, and the environmental protection initiatives couched in scientific explanation all interact in the web of experience from whence climate and nature materialise. Like tendrel, STS deliberations regarding inconsistent hybrids and modes of syncretism also lend themselves to a messy interdependency, and that is why I have used them to frame enactments of climate. As Law et al note (2013: 187), if reality is endlessly non-coherent, then the repertoires for holding things that do not fit together must be similarly flexible. Whilst for some observers epistemological and ontological non-coherence may represent impurity or contamination, for those in the assemblage it is a temporal site of contact or engagement - however transient and unstable - that is brought into being through different enactments of climate that have appeared at diverse geographic, historical and epistemological locations. Tendrel thus lends itself to non-coherence due to the flexibility it has for translating cause and effect: a 'coming into being [that] can be seen as an ontological event, the "enactment" of a particular reality of climate change' (Popke 2016: 4).

Concluding Remarks

Various aspects of practice are observable in moral discourse as well as in the performances of everyday religion, of which nature and climate are but a part. Both the mythical narrative of decline and the scientific narrative of anthropogenic climate change deem the current epoch as one of profound danger. Whilst the 'problem' of neglecting the cosmopolitical may seem like a predominantly anthropological one, the need to understand complex outcomes of development and conservation strategies is increasingly being recognised, with organisations requesting social scientific evaluation of their projects, and academic funding being made available.¹⁷ This suggests that there will be a call for methodological hybridity that can keep different epistemologies and ontologies in 'productive tension with each other'

¹⁷ See, for example, this ESRC-DfID funded project: http://www.iccs.org.uk/measuring-complex-outcomes-of-environment-and-development-interventions/, accessed 27/08/2014.

(Yeh 2016: 39). In this essay, I have attempted to demonstrate the possibilities of an approach that foregrounds hybridity and performance offer for revealing the 'climate multiple' (to adapt a phrase from Mol, 2002). By adopting an approach that allows assemblages of inconsistent logics to [non]cohere, one can observe the consequences — both productive and destructive — when ways of knowing (the discourses of scientific empiricism and the moral imperatives of Buddhist exegesis) and ontologies of pragmatic engagement intermingle and disturb each other, producing multiple climates with multiple effects that somehow hang together.

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