

Milk to Mandalay: dairy consumption, animal history and the political geography of colonial Burma



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ABSTRACT

British imperial writers in Burma regularly moaned about milk. They complained about the difficulties they faced acquiring it in the colony. They were selfconscious about how their consumption of it might be viewed by the Burmese population, who predominantly did not drink cow's milk. And they worried about the quality of the supply provided by itinerant Indian dairymen, who they viewed as being neglectful and insanitary. Through these concerns the absence of milk became a marker of the colony's difference from the rest of the Raj. At the same time, the colonial government came to recognise the importance of locally-bred working cattle for Burmese agriculture. In their attempts to protect these valuable nonhuman labourers, Indian dairy herds were represented as a problem breed that threatened the indigenous stock. The threat from foreign cattle coalesced around epizootic disease and uncontrolled crossbreeding. These concerns were coterminous with official and nationalist anxieties about the Indian human population in the colony. Building on recent scholarship uncovering more-than-human geographies, this article reveals how colonial policies designed to improve the dairy industry and protect Burmese cattle contributed to the material and imaginative territorialisation of Burma, and its eventual separation from British India.

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Writing at the end of the First World War, Colin Metcalfe Enriquez, a colonial official who served in Burma's borderworlds, outlined the difficulties of meeting visiting dignitaries' dietary expectations when in remote parts of the colony. He recalled some of the tedious culinary preparations for one particular viceregal arrival:

Take, for instance, the case of milk. Nothing is so necessary to State Visits as good, foamy milk, full of cream and so on. There was a large file relating to the particular quart I have in mind. It was to be delivered several months hence at a little river-side village where the steamer would touch at tea-time. Some say the correspondence started before the cow was born. But she was a placid old beast, and didn't mind *that* a bit, until the milkman put on his apron. Then she shied, and kicked the bucket over. The whole credit of the apron belongs to the Sanitary Commissioner, who had made a special study of the art of milking. But apparently he did not know this old cow, and how irreconcilable the apron made her. Her panic only increased with rehearsals. There were sterilisers, and boilers, and strainers too, including a bit of an old shirt. But these were kept beyond reach of her apprehensive glances. At the last moment, when

everything was ready, a frantic order came to buy the milkman *rubber gloves*. Rubber gloves in a Burmese river-side village!! They were simply not to be had – not for all th[e] wealth of Thibaw [the last king of Burma], if he ever had any.¹

As it transpired, the viceroy's ship did not even land at the village. It steamed past oblivious to all the fuss. The carefully orchestrated efforts, frenetic correspondence and the cow's distress had been for nothing.

As Enriquez's passage attests, the British found it hard to get cow's milk in Burma. Despite legislation that required village headmen to provide provisions for officials and other Europeans touring the colony, fresh milk often proved difficult to acquire.² This was in large part because, in contrast to the rest of British India, there was not a large local market for dairy products. The experience of imperialism did little to change this situation. Although during colonial rule the

¹ C.M. Enriquez, *A Burmese Loneliness: A Tale of Travel in Burma, the Southern Shan States and Keng Tung*, Calcutta, 1918, 245.

² R.W. Winston, *Four Years in Upper Burma*, London, 1892, 182; G.W. Bird, *Wanderings in Burma*, London, 1897, 43; F.W.T. Pollok and W.S. Thom, *Wild Sports of Burma and Assam*, London, 1900, 201; G.E. Mitton, *A Bachelor Girl in Burma*, London, 1907, 131; Anon., *A Dog's Life in Burma, Told by the Dog*, London, 1909, 36, 68, 86.

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consumption of milk certainly became more prevalent, it remained comparatively unpopular throughout the period. By the time of the Japanese occupation, an estimated 1.8 fluid ounces of milk per capita were drunk daily in the colony. This compared to 6.6 fluid ounces across the border in India, and to roughly forty fluid ounces in Denmark and the United Kingdom. Of the milk consumed in Burma, almost a third was imported and eighty-nine per cent of this was tinned condensed milk.³ Deborah Valenze has characterised the global history of cow's milk as the triumphant emergence of a culturally malleable, universal commodity. She argues that it has been a story 'of [the] conquest of space, energy, and dietary preferences'.⁴ It would seem that the example of colonial Burma reveals some of the limits to this campaign of conquest.

Whilst Valenze's narrative of conquest and resistance deploys terms associated with imperialism, in what follows I consider the history of milk not in terms of the 'conquest of space', but instead in terms of the 'production of space'.⁵ This is because the history of milk was imbricated in the drawing of what has been called the 'embryonic border' between Burma and the rest of British India, which eventually led to the colony's succession from the Raj in 1937.⁶ Milk was caught up in the geopolitical territorialisation of the colony, rather than simply being a conquering colonial commodity. Milk was part of this production of colonial space both figuratively and materially. In the imperial imagination the lack of cow's milk was believed to be the result of the religious mores of Burmese Buddhists. At the same time, the introduction of dairying was associated with the encroachment of Indians into Burmese life. Colonial officials viewed it as an alien and potentially damaging intrusion. Inextricably linked to these imperial representations, were material obstacles to the introduction of large-scale dairy production in the colony. Milk offers another demonstration that, as Felix Driver and others have long argued, material encounters and imaginative representations were inseparable in the making of imperial geographies. In addition, as a definitively mammalian product for nourishing warm-blooded creatures, milk points to the importance of animals within the production of colonial space.⁷

Building on the insights of more-than-human geography, this article attempts to keep animals within its analytical framework. Over the last fifteen years animal geographers have been arguing that nonhumans are central to the production of spaces. Introducing their ground-breaking early collection on the subject, Chris Philo and Chris Wilbert called attention to how humans have attempted to confine other species in 'animal spaces', both material and imagined: the zoo, the farm, the wild. But they also went further and urged geographers to take into account the ways that animals transgressed these confinements, producing their own 'beastly places' in the process.⁸ This has pushed geographers to consider how animals might be brought into their scholarship, as

well as how animals might force changes within scholarship itself. Certainly, the once axiomatic centrality of human-animals in human geography has been questioned. The privileged role of agent ascribed to humans has been much critiqued through anti-humanist post-structuralism and a re-conceptualisation of agency as relational, dispersed and contingent.⁹ As Henry Buller has tracked in his recent surveys of this expanding field, this has led to considerable methodological innovation. Ethnographic methods along with observational and participatory forms of multi-species research have enabled geographers to provide space in their work for nonhuman creatures as subjects for themselves, as opposed to mirrors for humanity.¹⁰ For those of us working on the past, some of these methods are challenging to deploy without the risk of anachronism. Nevertheless, the recognition of the importance of embodied experiences and materiality, the dissolution of the nature-culture binary, and the attention being paid to how social contexts are produced, which underpin these new methods, are developments that historical geographers can build on to uncover how animals have been imbricated in imperial geographies.

Within these discipline trends, this article picks up particularly on Kersty Hobson's call for animals to be conceived of as subjects within political geography.¹¹ In this case, the article argues that the politics of Burma's contentious separation from British India was informed by cattle. This does not mean attempting to represent the subjective experience of the animals involved in this history; although at appropriate moments – and when the sources allow – this is brought into the discussion. Rather, it means conceptualising cattle as 'lively commodities'. The term captures the tension in how nonhumans were recognised as subjects with particular capacities and characteristics, whilst simultaneously attending to the ways in which they were rendered as objects representing human desires and exchange values.¹² The implication of this when studying milk (or other animal-derived human food stuffs) is that historians should not neglect the living, flesh and blood means of production involved. In order to bring animals into the historical political geography of colonial Burma as subjects, the new relationships with cattle engendered by the commodification of their bodies and in the consumption of their milk need to be put at the centre of the study.

Drinking cow's milk was an act of 'interspecies intimacy'. It was a material and imaginative encounter with another mammal that involved consuming a liquid usually expressed to feed that creature's young. Brett Walker makes a similar point in his study of moments when humans have been attacked by carnivorous, predatory animals. He argues that these events demonstrate the unnerving human-animal intimacy of encounters in which a human is reduced to being another creature's source of protein.¹³ The

³ Report on the Marketing of Milk in India and Burma (Abridged Version), Delhi and Simla, 1941, 8–11.

⁴ D. Valenze, *Milk: A Local and Global History*, New Haven, 2011, 4–7.

⁵ H. Lefebvre, *The Production of Space*, translated by D Nicholson-Smith, Oxford, 1991.

⁶ N. Osada, An embryonic border: racial discourses and compulsory vaccination for Indian immigrants at ports in colonial Burma, 1870–1937, *Moussons* 17 (2011) n.p.

⁷ F. Driver, Imagining the tropics: views and visions of the tropical world, *Singapore Journal of Tropical Geography* 25 (2004) 1–17; and for a study that argues for the material importance of animals, see J. Lorimer and S. Whatmore, After the 'King of Beasts': Samuel Baker and the embodied historical geographies of elephant hunting in mid-nineteenth-century Ceylon, *Journal of Historical Geography* 35 (2009) 668–689.

⁸ C. Philo and C. Wilbert, Animal spaces, beastly places: an introduction, in: C. Philo and C. Wilbert (Eds.), *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations*, London, 2000, 1–36.

⁹ E. Fudge, A left-handed blow: writing the history of animals, in: N. Rothfels (Ed.), *Representing Animals*, Bloomington, 2003, 3–18; L. Nash, The agency of nature or the nature of agency? *Environmental History* 10 (2005) 67–69; D. Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness*, Chicago, 2003.

¹⁰ H. Buller, Animal geographies I, *Progress in Human Geography* 38 (2013) 308–318; H. Buller, Animal geographies II: methods, *Human Geography* 39 (2014) 374–384.

¹¹ K. Hobson, Political animals? On animals as subjects in an enlarged political geography, *Political Geography* 26 (2007) 250–267; although, as has been recently noted, the impact of this on the sub-field of political geography has only been slight, see K. Srinivasan, Towards a political animal geography? *Political Geography*, in press.

¹² R-C. Collard and J. Dempsey, Life for sale? The politics of lively commodities, *Environment and Planning A* 45 (2013) 2682–2699; N. Shukin, *Animal Capital: Rendering Life in Biopolitical Times*, Minnesota, 2009.

¹³ B.L. Walker, Animals and the intimacy of history, *History and Theory* 42 (2013) 45–67.

consumption of milk is perhaps a more optimistic example of interspecies intimacy; although modern, intensive commercial dairy farming would suggest otherwise.¹⁴ In Burma this intimacy was bound up with the making of boundaries between the coloniser and the colonised. As with taboos on cannibalism and eating certain animals, perceptions of milk drinking reinforced imperial mappings of cultural difference.¹⁵ In addition, in order to facilitate milk consumption the colonial state in Burma was drawn into improving its production and distribution. To achieve this they had to marshal competing uses of cattle and maintain the welfare of the colony's ox population. In other words, the colonial state devised and enacted policies to make space for cattle based on their reading of the animals' needs. The perceived threats from Indian-owned dairy herds to the quality of milk and the health of cattle resulted in these lively commodities becoming subjects in Burma's contentious political geography as it became imagined apart from the Indian empire.

To explore the interplay between the imaginative and material processes through which cow's milk contributed to the production of Burma's 'embryonic border' with India, the article is divided into three sections. The first section reveals how the potentially transgressive intimacy of dairy was negotiated when British imperial actors found themselves in a culture that did not routinely consume dairy products.¹⁶ It shows how the consumption of cow's milk fed into the production of a particular imaginative geography, described by Stephen Keck as the 'Burmascape'.¹⁷ The second section explores the material arrangements put in place to create a network for distributing milk to allay colonial concerns over sanitation. It focuses on the colonial state's attempts to order and police space. The third section uncovers the perceived problem of herds of Indian milch cattle breeding with Burmese plough cattle. It explores how colonial policies to monitor and restrict Indian cattle were coterminous with policies to monitor and restrict Indian humans.

This is not the first study to historicise milk consumption and its absence in southern Asia. In 1970 the cultural anthropologist Frederick J. Simoons examined the history of the 'milk-line' that has been said by scholars since the nineteenth century to bisect the region. His work was highly sophisticated and deployed a complex interaction of factors to explain milk drinking and its absence: cultural, ecological, psychological and biological. He also acknowledged the presence of comparable milking practices existing on either side of the line. Nevertheless, his article reinforced the line's analytical utility (see Fig. 1). Beginning at the Bay of Bengal, the line was said to run from 'somewhere southeast of Chittagong, roughly on the border between the Moslem Bengali and Buddhist Arakanese', it then 'runs inland, to turn northward along the western edge of the Chittagong Hill Tracts, where it separates Bengali from animistic hill tribes'.¹⁸ In other words, the milk-line roughly maps onto the contentious geopolitical borders between contemporary Myanmar, Bangladesh and northeast India.

It also reinscribed the Area Studies division between South and Southeast Asia, now considered a heuristic separation with its origins in Cold War geopolitics.¹⁹ Recent developments in border studies have exposed the superficiality of these divisions, instead conceptualising this region as one criss-crossed with dynamic social, cultural and economic networks between various mutable ethnic identities.²⁰ For Simoons, though, the line had cultural meaning. The existence of predominantly non-milking societies on the east side of the line were 'survivals' of ancient Hindu *ahimsa* beliefs introduced to Southeast Asia from India. They were 'remnants' of older cultural mores.²¹ As sophisticated as Simoons' work was in many respects, he relied heavily on imperial writings, often taking their observations at face value. Through this, his study reified and naturalised what remains a contentious division between South and Southeast Asia along the western borders of Myanmar. This article denaturalises this border by uncovering the colonial history of how milk became entangled in the immanent political geography of British Burma.

Drinking milk in the 'Burmascape'

Critiquing the discursive 'othering' through which social and conceptual hierarchies are maintained is a central concern shared by both animal studies and postcolonial studies.²² However, because of an understandable sensitivity to how imperial authorities made accusations of animality to dehumanise colonised populations in the past, until quite recently 'species' has not been much discussed in postcolonial deconstructions of race, gender, sexuality and class.²³ Nevertheless, it is evident that underlying conceptual shifts in imperial thought shaped how differences between humans and other animals, as well as differences between 'types' of humans, have been defined and explained. These differentiations were inextricably entangled and often mutually reinforcing.²⁴ In addition, material interactions with animals were viewed as markers of difference between the colonisers and the colonised. Imperial observers in Burma cited examples of tactile and sentimental relationships Burmese people were said to have

¹⁴ G. Gaard, Toward a feminist postcolonial milk studies, *American Quarterly* 65 (2013) 595–618.

¹⁵ J. Bourke, *What It Means to Be Human: Reflections from 1791 to the Present*, London, 2011, 265–330; S-W. Poon, Dogs and British colonialism: the contested ban on eating dogs in colonial Hong Kong, *Journal of Imperial and Commonwealth Studies* 42 (2014) 308–328.

¹⁶ Indeed, the very history of the scientific designation 'mammal' reveals the ambivalent and gendered place that natural historians gave humans within the animal kingdom. See L. Schiebinger, Why mammals are called mammals: gender politics in eighteenth-century natural history, *American Historical Review* 98 (1993) 382–411.

¹⁷ S.L. Keck, *British Burma in the New Century, 1895–1919*, Basingstoke, 2015, 28–43.

¹⁸ F.J. Simoons, The traditional limits of milking and milk use in southern Asia, *Anthropos* 65 (1970) 555.

¹⁹ V.L. Rafael, The cultures of area studies in the United States, *Social Text* 41 (1994) 91–111; W. van Schendel, R. Cribb, J.D. Sidaway and T. Than, Southeast Asia: an idea whose time is past? *Journal of the Humanities and Social Sciences of Southeast Asia* 168 (2012) 497–510.

²⁰ M. Baud and W. van Schendel, Toward a comparative history of borderlands, *Journal of World History* 8 (1997) 211–242; W. van Schendel, Geographies of knowing, geographies of ignorance: jumping scale in Southeast Asia, *Environment and Planning D: Society and Space* 20 (2002) 647–668; J.C. Scott, *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia*, New Haven, 2009; M.W. Charney, Literary culture on the Burma–Manipur frontier in the eighteenth and nineteenth centuries, *The Medieval History Journal* 14 (2011) 159–181; M. Sadan, *Being and Becoming Kachin: Histories beyond the State in the Borderworlds of Burma*, Oxford, 2013.

²¹ Simoons, The traditional limits of milking and milk use in southern Asia, 547–593.

²² G. Bankoff and S. Swart, Breeds of empire and the 'invention' of the horse, in: G. Bankoff and S. Swart (Eds), *Breeds of Empire: The 'Invention' of the Horse in Southeast Asia and Southern Africa, 1500–1950*, Copenhagen, 2007, 6–10.

²³ P. Armstrong, The postcolonial animal, *Society & Animals* 10 (2002) 413–419. Also see the discussion in the introduction to S. Rajamannar, *Reading the Animal in the Literature of the British Raj*, New York, 2012.

²⁴ M. Radhakrishna, Of apes and ancestors: evolutionary science and colonial ethnography, *Indian Historical Review* 33 (2006) 1–23; J. Vetter, Wallace's other line: human biogeography and field practice in the eastern colonial tropics, *Journal of the History of Biology* 39 (2006) 89–123; S. Sivasundaram, Imperial transgressions: the animal and human in the idea of race, *Comparative Studies of South Asia, Africa and the Middle East* 35 (2015) 156–172.

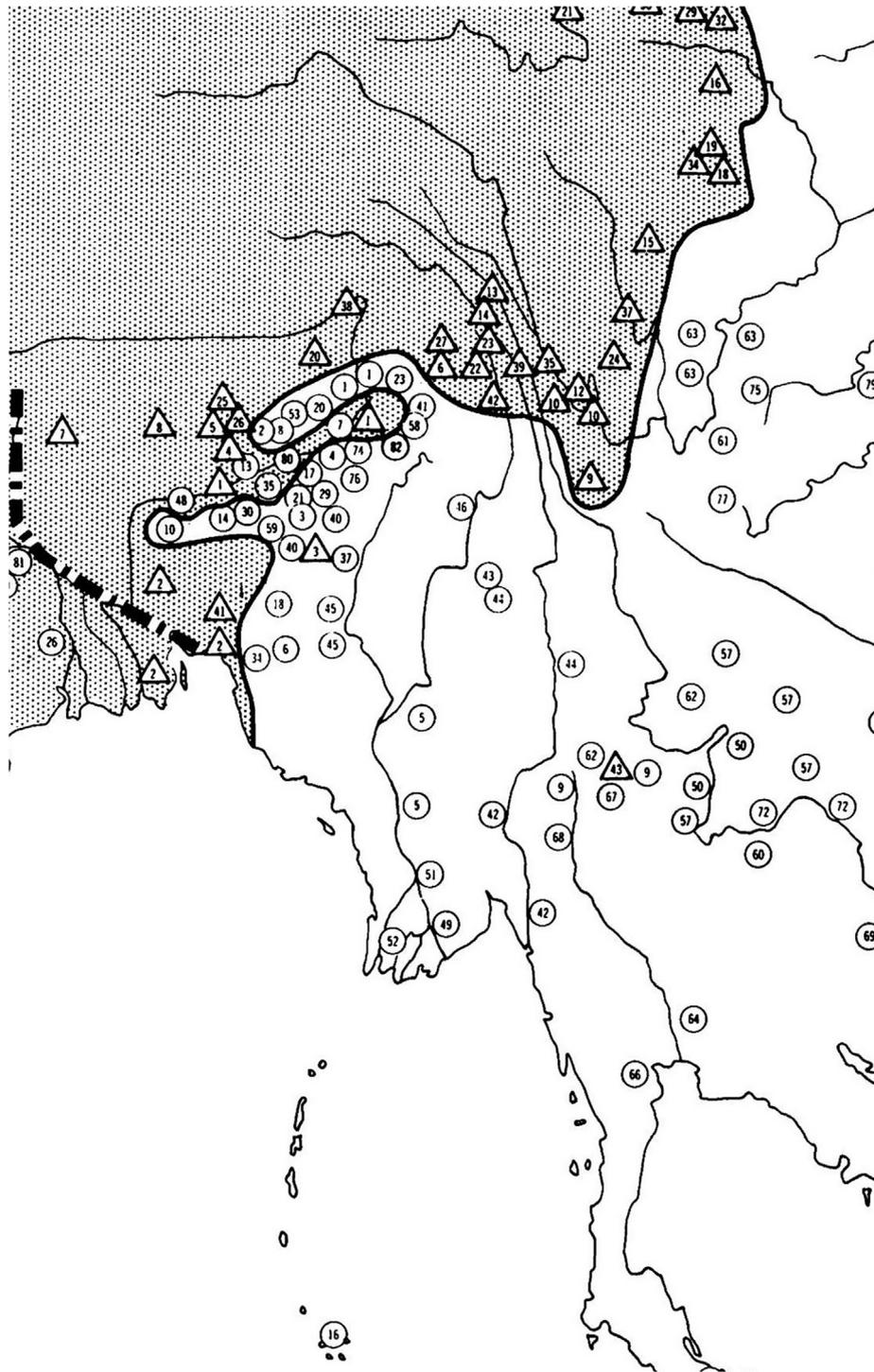


Fig. 1. The milk-line in southern Asia, detail from Map 3 in F.J. Simoons, The traditional limits of milking and milk use in southern Asia, *Anthropos* 65 (1970) 547–593. The shaded area is 'Milking predominant', the unshaded area is 'Nonmilking predominant'.

with certain animals to represent the colony as in need of British rule.²⁵ Milk consumption, as a contested form of human-animal intimacy, was bound up in this politics of colonial sensibilities. As part of imperial writings on the distinctiveness of the colony's cultural landscape, milk informed the imaginative geography of

Burma as a place distinct from India. Stephen Keck has argued that the turn-of-the-century writings of colonial scholar officials and travel-writers sympathetic to Burmese culture generated a particular imaginative geography that he calls the 'Burmascape'. These authors rendered Burma a 'unique geographic entity' that could be objectively observed.²⁶ The absence of milk drinking was

²⁵ For a fuller discussion, see J. Saha, Among the beasts of Burma: animals and the politics of colonial sensibilities, c.1840–1950, *Journal of Social History* 48 (2015) 933–955.

²⁶ Keck, *British Burma in the New Century*, 30–33.

simultaneously a sign of the colony's distinctiveness (particularly from India) and a measure of its (unfavourable) difference to Europe.

Being unable to acquire milk whilst travelling Burma was a frequent gripe in imperial writings. In this it stood in contrast to the rest of British India. Where fresh cow's milk was drunk in the colony it was associated with Indian populations, such as Sikhs employed in the military. Their consumption of milk was seen as evidence of their 'pastoral Aryan' instincts.²⁷ British authors' explanations for the absence of milk drinking among the Burmese in Burma often rested upon wider imperial representations of the population, and particularly of Buddhism. It was argued that as Buddhists the Burmese objected to the consumption of milk out of an exaggerated – from the British point of view – sympathy with animal life. As the travelling artist and author, Robert Talbot Kelly, wrote in 1905, in a typical passage, 'Forbidden by their religion to take life, meat seldom forms part of their diet, and to such an extreme is this principle carried that they sometimes even decline to milk their cows, who become dry in consequence'.²⁸ This depiction of Buddhist morality in Burma was an inaccurate exaggeration. Vegetarianism was not widespread in the late nineteenth century or early twentieth century, instead emerging as a response to the perceived threats of colonialism to Buddhist learning and of beef eating to local ecologies.²⁹ As we shall see in the following sections, there were other uses to which cattle in Burma were put, particularly in agricultural labour. These uses had a higher priority than milk production. By emphasising a religiously-motivated veganism as an explanation for the alleged Burmese abstinence from dairy products, British writers were implicitly claiming a normative status for their own consumption habits.

Despite this essentialising explanation, the scarcity of milk and the novelty of drinking it among the Burmese made it an even more conspicuous commodity for the British. In some respects, milk drinking was made a strange experience. Ventriloquizing Burmese witnesses, the travel writer Geraldine Mitton claimed in 1907 that locals found the British habit of drinking cow's milk 'disgusting'.³⁰ More than representing any actual Burmese perceptions, this comment demonstrates that Britons in Burma had a heightened awareness of the animal intimacy of their milk-drinking habits and were troubled by how they may have been perceived because of them. Other writers made milk drinking appear strange in this colonial context through detailing extreme examples of acquiring it from creatures whose milk was not commonly consumed. For instance, in 1900 the imperial hunters Fitz William Pollok and W. Thom recounted killing a rhinoceros cow and its calf. Because of the difficulty in getting milk they milked the dead mother, getting two bottles' worth for their trip. Apparently the taste was 'very weak and very sweet'.³¹

More unsettling for imperial sensibilities was an episode in a short anonymous piece of travel writing published in 1909, purportedly written by a Burmese dog who had been adopted by an English family holidaying in the colony.

The Headman brought us in some boiling hot tea and some 'jaggery' (blocks of coarse sugar) to sweeten it with. The Mem Sahib drank one cup and then felt so much better that she began to grumble because there was not any milk. When the Headman learnt what was wanted, he went and had a woman with a baby brought in, and told her. She was so kind that she emptied some milk out of her chest into the tea! Even then the Mem Sahib was not pleased, but the Colonel Sahib said it was a kindly act and a 'work of merit,' and she must not be ungrateful and he took the cup from her, and later I saw it was empty. I don't know who drank it, anyhow I didn't get the chance.³²

There is a lot going on in this passage. It presents the Burmese headman and female villager as lacking in Edwardian-era, British sensibilities and a related sense of shame, locating them in the rural backwaters of the colony. At the same time, it contributed to a wider portrayal of married English women in the Indian Empire as demanding, prudish and prissy.³³ Yet, the implication that 'Colonel Sahib' had in fact drunk the human breast milk gave a transgressive undertone to the otherwise 'gentle' humour. It was transgressive because it was an adult drinking mother's milk, but it was also transgressive because he was drinking breast milk from a Burmese woman. Other male imperial writers in Burma sexualised breast-feeding when they described witnessing it in public. It was a way of circuitously acknowledging their own feelings of sexual desire. These were descriptions of shameful, barely suppressed desires for the racialised, eroticised 'other', brought on by the common tropical threats to white masculinity of loneliness, over-exhaustion and climate.³⁴ The oblique way in which the colonel's consumption of the tea is hinted at perhaps speaks to this wider ambivalence of imperial curiosity and repulsion.³⁵ Given that drinking mother's milk was transgressive, the mistake of their Burmese host in assuming the equivalence of cow's milk with human breast milk hints at imperial anxieties about dairy consumption. It implied a concern that in Burmese eyes drinking cow's milk amounted to the same thing as an adult drinking mother's milk.

Despite these accounts of the defamiliarisation of drinking cow's milk, it was noted by some imperial writers that occasionally milk was consumed by the Burmese. This was explained – as so many aspects of colonised peoples' behaviour were when they appear to encroach on imperial habits – as a form of imperfect mimicry.³⁶ As yet another British travel writer, Grattan Geary, put it as early as 1886: milk was drunk 'only in imitation of European selfishness'. Geary was using milk to illustrate the creeping modernisation of Burma, a portrayal that fitted with his wider

²⁷ V.C.S. O'Connor, *The Silken East: A Record of Life and Travel in Burma*, Volume 1, London, 1904, 288.

²⁸ R.T. Kelly, *Burma, Painted and Described*, London, 1905, 248. For more on Kelly, and on imperial travel writing on Burma more widely, see S.L. Keck, Picturesque Burma: British travel writing 1890–1914, *Journal of Southeast Asian Studies* 35 (2004) 387–414.

²⁹ A. Turner, *Saving Buddhism: The Impermanence of Religion in Colonial Burma*, Honolulu, 2014, 91–93; M.W. Charney, Demographic growth, agricultural expansion, and livestock in the lower Chindwin in the eighteenth and nineteenth centuries, in: G. Bankoff and P. Boomgaard (Eds), *A History of Natural Resources in Asia: The Wealth of Nature*, Basingstoke, 2007, 227–244.

³⁰ Mitton, *A Bachelor Girl in Burma*, 131.

³¹ Pollok and Thom, *Wild Sports of Burma and Assam*, 470–473.

³² Anon., *A Dog's Life in Burma*, 68.

³³ I. Sen, *Woman and Empire: Representations in the Writings of British India, 1858–1900*, London, 2002.

³⁴ Saha, Among the beasts of Burma; W. Anderson, The trespass speaks: white masculinity and colonial breakdown, *American Historical Review* 102 (1997) 1343–1370. The politics of cross-racial breastfeeding might also be considered as part of the context for understanding this transgression. It was a common practice to employ Indian wet-nurses for British children in the Raj. However, using Rudyard Kipling's *Jungle Book* stories, it has been argued that literary portrayals of receiving milk represented Oedipal desires for the absent and forbidden wet-nurse mother figure, see J. Hotchkiss, The jungle of Eden: Kipling, wolf boys, and the colonial imagination, *Victorian Literature and Culture* 29 (2001) 435–449.

³⁵ I am not suggesting that these were innate desires, but rather endorse Ann Laura Stoler's argument that colonialism engenders these taboos that require policing, see A.L. Stoler, *Race and the Education of Desire: Foucault's History of Sexuality and the Colonial Order of Things*, Durham, N.C, 1995.

³⁶ H.K. Bhabha, Of mimicry and man: the ambivalence of colonial discourse, *October* 28 (1984) 125–133. For a discussion of this discursive strategy in colonial Burma, see P. Edwards, Half-cast: staging race in British Burma, *Postcolonial Studies* 5 (2002) 279–295.

project of representing the colony as ripe for commercial exploitation.³⁷ In this vein, drinking milk was often read as a measure of Burma's increasing engagement with the world market. Mostly, it was the consumption of tinned condensed milk that was noted by imperial observers.³⁸ Writers usually recorded the northern European origin of tinned milk in their descriptions. This detail was mentioned to suggest the cosmopolitanism of milk drinking and so to deploy tinned milk as evidence of the changes to Burmese ways of life. It also reflected the dominance of Dutch, British and Swiss companies as importers of tinned milk during the first half of the twentieth century.³⁹ Emphasising it as a consumption habit exogenous to Burma, tinned milk was also associated with the population of Chinese merchants who had migrated to the colony to sell imported goods.⁴⁰ These portrayals fitted with the widely-held notion that the Burmascape was in decline; that the 'real' Burma was disappearing in the wake of modernity.⁴¹

Drinking cow's milk took on additional meanings for imperial writers in the context of colonial Burma. The perception that it was not consumed out of a religious concern for animals served to perpetuate an essentialising elision between the population of Burma and Burmese Buddhists. Buddhism had a central place in defining the colony for the British.⁴² In imperial writings Indian milk drinkers, such as the Sikh soldiery, might be in Burma but they were not of Burma. British writers' reported experiences of struggling to acquire milk were not banal observations. They can be situated alongside their retelling of numerous apocryphal stories of Burmese women breastfeeding orphaned animals.⁴³ Through the over-determined role of Buddhism in defining the Burmascape, both were used to demonstrate that the Burmese were too close to animals. In contrast to Indian populations, who were represented as cruel to animals, the Burmese were viewed as being overly sympathetic.⁴⁴ Where milk drinking was observed, it was understood to be a form of consumerist mimicry that was part of the erosion of 'traditional' Burma. All of these strands contributed to the British imaginative geography of the colony. Imperial writings on dairy consumption – or, rather, the lack of it – in Burma reified this geography as a given entity, implicitly relying upon it to frame their writings. Burma was where you could not get milk in British India.

Disciplining dairy geographies

Imperial explanations for the lack of milk drinking were entangled with the material difficulties of producing cow's milk for human consumption faced in the colony. The historical experiences of the colony's cattle was one barrier to milk production. The logistics of distribution was a further problem. In addition to these there were official concerns over the hygiene of the milch cattle that were available, as well as the insanitary conditions in which milk was prepared for human consumption. The proposed solutions to these issues involved a rearrangement of space to allow for the

monitoring and regulation of human-cattle interactions, particularly in urban contexts. Within the discussions over these logistical challenges, the cattle were rendered subjects through their status as 'lively commodities' – commodities valued for their capacities as living entities.⁴⁵ Milk production necessitated fostering relationships with cows that attempted to take into account their needs and preferences, however skewed interpretations of those may have been. But the difficulty of milk did not end with the cow. Once produced, the milk itself was liable to adulteration and infection necessitating state and scientific intervention.⁴⁶ Limiting the mobility of dairy cattle and removing them from urban areas through policies designed to order and police space were central to colonial schemes for improving milk production and distribution.

Colin Metcalfe Enriquez's tongue-in-cheek account of the tribulations involved in arranging for a cow to be milked, with which I opened this paper, picks up on an important point: the relative novelty of milk drinking meant that both people and cattle were unused to the production process. Muriel Bowden, wife of a timber firm employee working in Burma in the interwar years, wrote of these problems in a letter to her mother in 1923, 'There are hundreds of cows all skin and bone but no one ever dreams of [milking] them'. She went on, 'We were trying to buy one for our own use. We did have one and the first morning the man brought half a cup full and said the cow kicked him and he wouldn't do it anymore!' Two weeks later she reported that they had managed to purchase a cow who would 'consent' to be milked.⁴⁷ As the animal historian Erica Fudge has shown using the findings of current animal welfare science, cows unused to being milked, or that have been put under stress by unfamiliar places or people, were less likely to produce a good quantity or quality of milk.⁴⁸ Enriquez and Bowden may not have been making fanciful anthropomorphic projections when they suggested that these cows were disinclined to be milked. It was a practice they lacked experience of and it would have been performed by the untrained hands of British colonials' servants, with or without rubber gloves. It was likely that in these circumstances the cows would become anxious and upset, and that this would make milking them even more difficult.

Whilst most of the cattle herds seen by Muriel Bowden and other imperial observers would have been employed in agricultural labour, there were a number of small scale Burmese dairy operations in central Burma.⁴⁹ The details of one dairy were reported on in 1911. It was a small and highly specialised industry located near Ava, one of the pre-colonial courtly capitals. The dairy had been established before colonial rule. Here the calves were allowed to suckle from their mothers until the evenings, at which point the lactating cows would be milked by humans. Since the cattle were neither bred especially for milk production nor wholly separated from their young, the yields were low, as they were for cattle across the colony.⁵⁰ They were milked in purpose-built bamboo sheds, presumably to put the animals at ease. However, the dairy did not produce liquid milk but *ghi* (clarified butter). This was a luxury product that was occasionally used in cooking across the colony, as

³⁷ G. Geary, *Burma, After the Conquest, Viewed in Its Political, Social, and Commercial Aspects, from Mandalay*, London, 1886, 18–19.

³⁸ O'Connor, *The Silken East*, 183, 666.

³⁹ British Library, India Office Records [hereafter IOR], V/25/500/268: F.D. Odell, *Market Surveys of Burma Crops: An Introductory Note*, Bulletin No. 32 of 1936, Rangoon, 1936, 10.

⁴⁰ A.M.R. Hart, *Picturesque Burma: Past & Present*, London, 1897, 253.

⁴¹ Keck, *British Burma in the New Century*, 71–93.

⁴² See, for instance, J.G. Scott, *The Burman: His Life and Notions*, third edition, London, 1910; H. Fielding-Hall, *The Soul of a People*, third edition, London, 1899.

⁴³ For further details, see Saha, *Among the beasts of Burma*, 918–919.

⁴⁴ P. Chakrabarti, *Beasts of burden: animals and laboratory research in colonial India*, *History of Science* 48 (2010) 125–152.

⁴⁵ Collard and Dempsey, *Life for sale*; D. Haraway, *When Species Meet*, Minneapolis, 2008, 45–67.

⁴⁶ P. Atkins, *Liquid Materialities: A History of Milk, Science and the Law*, Farnham, 2010.

⁴⁷ IOR MSS EUR/F575: A. Bowden and I. Adams (Eds), *Ever Your Loving Mully: Letters from Burma of Muriel Bowden to Her Mother Alice Britten in England, 1922–24*, 2008, 1 July 1923, 15 July 1923.

⁴⁸ E. Fudge, *Milking other men's beasts*, *History and Theory* 52 (2013) 13–28.

⁴⁹ IOR V/26/540/1: *Report of the Stock Breeding Committee Burma 1917*, Rangoon, 1918, 51.

⁵⁰ IOR V/27/540/20: G.H. Evans, *Monograph on the Cattle and Buffaloes of Burma* Calcutta, 1905, 18.

was the cottage cheese produced as a by-product of the process.⁵¹ The Burmese name for this local *ghi* was *tawbat* (*tho pat*).⁵² This word was, and continues to be, used more generally to refer to European butter. Reflecting on the previous section, it seems that imperial consumption practices were understood through a pre-existing food culture, rather than being seen as unfamiliar, alien, irreligious or even repulsive, as British writers assumed. These local producers may have later adapted their production to meet the new demand for condensed milk, since it was reported in 1940 that condensed milk originating from around this region was being sold in Mandalay.⁵³ Evidently there was an older, pre-colonial geography of dairy production centred on the political and cultural heartland of the Konbaung Dynasty.

This cottage industry notwithstanding, cattle were not widely used for dairy production. This absence was not viewed negatively by all British officials. According to some imperial writers the fact that the calves received most of their mothers' milk explained their later strength when fully-grown beasts of burden.⁵⁴ As the colony's foremost veterinary official, George H. Evans, noted in his 1905 monograph on Burma's buffaloes and cattle, '[t]his is by nature's method The calves therefore obtain the full benefit of the whole of their natural nourishment'.⁵⁵ The emphasis on 'natural' interactions underscored Evans' views of Burmese relations with their cattle. He thought them the best cared for cattle in the East. Although the colonial state did establish an experimental farm near Mandalay in an attempt to increase milk yields in Burmese oxen, it was of little consequence.⁵⁶ Evans went on in his report to ask whether attempts to increase milk yields were necessary at all. Using cattle for dairies was viewed as being in tension with their use as labourers in agriculture, an issue explored in the following section. Depriving the calves of their mothers' milk might add value to lactating cows, but it was believed to reduce the future labour power of the calves themselves.

By the twentieth century most of the dairy production in the colony was conducted by Indians who had migrated to Burma with their own cattle. Indeed, the presence of cattle on ships from the subcontinent was a significant contributing factor in the unpleasant and unhealthy conditions migrants experienced during this journey.⁵⁷ These herds were predominantly located in urban spaces and at railway towns. This was to meet the mostly urban demand for milk, since substantial European and Indian populations lived in the colony's towns and cities.⁵⁸ Evans was less than complimentary about Burma's Indian population and their cattle. He viewed these animals as neglected and unhealthy, and believed their milk to have been adulterated through their owners' unclean habits. He argued that given the 'dire maladies' associated with milk produced by Indian milkmen it would be better to advise the milk-drinking foreign population in Burma to mimic the Burmese in abstaining from dairy. He, like many British imperial writers, viewed the muscular physique of Burmese men as evidence that the lack of

milk appeared to have little in the way of a detrimental effect on their bodies.⁵⁹ Whilst concern about adulteration was a common one back in Britain at the time, Evans' writing suggests that in empire this concern was refracted through notions of race.⁶⁰ It was indirect contact with the bodies of Indians, through their animals, that was identified as the primary problem with the milk supply. Indian dairymen were potential vectors of disease. Drinking milk, he worried, might bring the British into proximity with 'uncleanly' Indian bodies.⁶¹

It was not only human health that was a concern. The regular outbreaks of rinderpest in the colony could result in large death tolls for oxen employed as plough cattle. In one outbreak that occurred in the year 1895 in Akyab district, on the border with Bengal, 1,563 cattle were registered as having died from the disease in under three months. The report into this particularly devastating epizootic was circulated among officials to learn from the lax attitude taken to monitoring the health of cattle. Foot-and-mouth was also a perennial threat, and the government issued descriptions of the disease and its treatment to the population in English and Burmese. The importance of the health of cattle was reflected in the Burmese term chosen by the British as a translation of 'veterinary medicine' in their public notices, which translated directly as 'buffalo-oxen-animal healing knowledge' (*kvai nvā: tīrcchān' kusa mhu chuii' rā pañā*).⁶² Despite its importance, officials struggled to identify the causes for particular outbreaks, including the Akyab episode. Nonetheless, the condition of Indian cattle and the neglect by their owners was identified as the primary disease pathway. They were said to move in large, uncontrolled herds, eating from grazing lands indiscriminately, drinking from agriculturalists' bunds until they were dry and befouling them, trespassing and trampling crops, and, when diseased, left to die in paddy fields spreading illnesses to the plough cattle.⁶³ In 1909 Evans, now head of the civil veterinary department, continued to raise concerns about Indian dairy herds spreading disease, particularly foot-and-mouth and rinderpest, because of their disregard for rules on trespassing. He argued that these herds were 'a great strain on the effectiveness of the operations for checking disease and on the obedience of the Burman cultivator to rules which he sees broken with impunity by natives of India'.⁶⁴ In the same year he also voiced concern about tuberculosis being spread from dairy cattle to humans through their milk. He encouraged the government to incentivise inoculations for dairy cows, but anticipated difficulties with Hindu owners, who constituted the majority of dairymen, because of their religious sensibilities.⁶⁵

To deal with the threat colonial officials proposed schemes that coalesced around restricting the mobility of Indian cattle and regulating the milk supply in urban spaces. To restrict the mobility of dairy herds the 1871 Cattle-Trespass Act was increasingly used, although, as Evans lamented, often with little success. This

⁵¹ IOR V/25/500/264: A. McKerral, *Sagaing District*, Department of Agriculture, Burma, Agricultural Surveys No. 2 Rangoon, 1911, 27–28.

⁵² Transliterated according to J. Okell, with U Saw Tun and Daw Khin Mya Swe, *Burmese (Myanmar): An Introduction to the Script*, DeKalb, 1994, Appendix 3, Transliteration: the alphabet with transliteration equivalents.

⁵³ *Report on the Marketing of Milk*, 26.

⁵⁴ H. Yule, *A Narrative of the Mission Sent by the Governor-General of India to the Court of Ava in 1855, with Notices of the Country, Government, and People*, London, 1858, 2; Mitton, *A Bachelor Girl in Burma*, 131.

⁵⁵ IOR V/27/540/20: Evans, *Monograph on the Cattle*, 15.

⁵⁶ IOR V/26/540/1: *Report of the Stock Breeding Committee*, 57.

⁵⁷ *Report of the Committee Appointed to Enquire into the Allegation of Inconvenience and Hardship Suffered by Deck Passengers Travelling between Burma and India*, Rangoon, 1918.

⁵⁸ IOR V/26/540/1: *Report of the Stock Breeding Committee*, 37.

⁵⁹ IOR V/27/540/20: Evans, *Monograph on the Cattle*, 32.

⁶⁰ P.J. Atkins, Sophistication detected: or, the adulteration of the milk supply, 1850–1914, *Social History* 16 (1991) 317–339.

⁶¹ IOR V/27/540/20: Evans, *Monograph on the Cattle*, 32. This may have been part of the 'affective wall' that Anglo-Indians erected between themselves and Indian environments, see E.M. Collingham, *Imperial Bodies: The Physical Experience of the Raj, c.1800–1947*, Cambridge, 2001.

⁶² National Archives of Myanmar, Yangon [hereafter NAM], 1/15(E) 13842, 1894 File No. 1V-1: 27 February 1894. This was in contrast to the rest of British India where militarily useful animals such as horses and camels were the priority, see S. Mishra, *Beasts, murrains, and the British Raj: reassessing colonial medicine in India from the veterinary perspective, 1860–1900*, *Bulletin of the History of Medicine* 85 (2011) 587–619.

⁶³ IOR V/26/540/1: *Report of the Stock Breeding Committee*, 38.

⁶⁴ NAM 1/15(E) 3200, 1909 File No. 2C-5: 27 October 1909.

⁶⁵ NAM 1/15(E) 3198, 1909 File No. 2C-3: 25 August 1909.

legislation enabled municipal authorities to seize and impound wandering, out-of-place or unclaimed cattle.⁶⁶ Officials also used wider legislative powers, such as those in the Village Act empowering them to remove people from towns and villages, to deal with Indian cattle. One deputy commissioner recalled in correspondence from 1915 that he had once used these powers to have an entire community of Indian cattle owners ejected from a town because they had 'made the place thoroughly insanitary'.⁶⁷ To find ways of better regulating the urban milk supply, F.J. Wrath, the official who ran the government's experimental dairy farm, investigated the milk supply to Mandalay in 1917. He noted that due to the lack of adequate transport infrastructure most dairy came from cattle owned by Indians who resided in the city. On the basis of his analysis of the quality of milk in the colony, he noted that the milk of urban cows contained less fat than that of rural cows and on this basis deemed it less healthy. He also criticised what he saw as the insanitary conditions of city-dwelling cows. His proposed solution was to establish urban depots so that milk brought in from the countryside could be speedily distributed throughout the city. The scheme would offer, it was hoped, a more regulated and reliable supply of milk and thus increase consumption.⁶⁸

No such scheme was put in place and in 1941 a report into the dairy industry across British India and Burma – now a separate colony, but still investigated within the same report – came up with almost identical proposals as a way of improving and growing the market.⁶⁹ The desire to remove cows from the city was part of wider developments in colonial governance that saw some animals pushed out of urban spaces for reasons of public health, itself a manifestation of shifts in the geography of cities that saw some nonhumans excluded.⁷⁰ In addition to this, it may have been part of a change in imperial sensibilities that desired animals to be separated from the edible products that came from their bodies by moving sites for the production of meat to less visible places.⁷¹ The milk depot may have been serving the same function, in this regard, as the abattoir: to hide the animal materiality of food production. One attempted scheme to improve the insanitary milk supply and remove cattle from the streets was to set up dairies in already existing imperial institutions, such as prisons, hospitals and asylums. These institutions were ready-made visible, urban signs of colonial authority whose internal regimes were nonetheless hidden from view.⁷² They were also enclaves of colonial medical practice.⁷³ For instance, the Rangoon Lunatic Asylum housed a dairy herd of at least fifty animals by 1920, despite being perpetually and acutely overcrowded with humans. It provided the inmates with milk, which was deemed to be an essential foodstuff for the maintenance of their health and made possible the asylum's regime of forced feeding. In addition,

the asylum's dairy sold milk to consumers in Rangoon where it could fetch a higher price from European purchasers than that commanded by Indian dairymen in the city.⁷⁴

Although cow's milk was widely lauded for its natural and health-giving characteristics in official circles, making and selling it was not left to occur 'naturally' in Burma.⁷⁵ Concerned with the health of human and cattle populations, officials devised numerous schemes for intervening in its production and distribution. With the opening of a medical laboratory in Rangoon in 1926, scientific examinations of the composition of milk in the colony became a routine procedure. Milk from across the colony was sent there for testing.⁷⁶ A dedicated research project into the quality of milk in the early 1930s determined that there were particular problems in Burma. The colony's dairy herds produced milk with low levels of fat and high quantities of non-milk solids. More sophisticated adulteration techniques made identifying malfeasance difficult. The scientists undertaking the research proposed additional criteria that supplemented the newly enacted legislation for monitoring the content of foods and drugs sold in the colony.⁷⁷ The various attempts to discipline the dairy industry discussed in this section inspired policies seeking to order and police space. In the process, they reified the political geography of Burma. The specificity of the problems of milk production reinforced the notion of Burma as a place apart from the rest of British India. Furthermore, the framing of 'Indian' cattle as a problem naturalised this geography by embodying it in animals.

Breeding racial tensions

The rendering of cattle as lively commodities in the milk industry was seen to be in tension with their commodification in a different economic sector, the rice industry. This was overwhelmingly the most important part of Burma's colonial economy. The late nineteenth century saw a rapid expansion of the deltaic rice frontier. By the opening decades of following century the Burma delta had become the largest rice producing region in the world.⁷⁸ The importance of plough cattle was reflected in their market value, which doubled between the end of World War One and 1930. As a result of their cost and necessity, the loss of cattle was often a contributing cause of indebtedness among agriculturalists.⁷⁹ Whilst labouring cattle were essential to rice cultivation they were also vulnerable actors. Mortality rates were high for working

⁶⁶ IOR V/27/540/18, 1910: *The Cattle Trespass Act Manual [with correction slips]*, Rangoon, 1910.

⁶⁷ NAM 1/15(E) 7594, 1915 File No. 2C-3: 18 November 1915.

⁶⁸ IOR V/25/500/267: F.J. Wrath, *The Mandalay Milk Supply*, Department of Agriculture, Burma, Bulletin No. 15 Rangoon, 1916, 1–3, 6, 8–11, 14–16.

⁶⁹ *Report on the Marketing of Milk*.

⁷⁰ D. Arnold, Pollution, toxicity and public health in metropolitan India, 1850–1939, *Journal of Historical Geography* 42 (2013) 124–133; C. Philo, Animals, geography, and the city: notes on inclusions and exclusions, *Environment and Planning D: Society and Space* 13 (1995) 655–681.

⁷¹ R.J.H. Woods, From colonial animal to imperial edible: building an empire of sheep in New Zealand, ca. 1880–1900, *Comparative Studies of South Asia, Africa and the Middle East* 35 (2015) 117–136.

⁷² D. Arnold and C. Anderson, Envisioning the colonial prison, in: F. Dikotter and I. Brown (Eds), *Cultures of Confinement: A History of the Prison in Africa, Asia and Latin America*, Ithaca, 2007, 304–331.

⁷³ D. Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, Berkeley, 1993.

⁷⁴ See *Report on the Rangoon Lunatic Asylum, for the year 1884*, Rangoon, 1885, and subsequent years. Although it is not stated in the reports the numbers by the 1920s must have been higher than fifty, since sixty-four animals were sold between 1919 and 1923 without being replaced and milk was still being produced, see *Report on the Lunatic Asylums of Burma, for the triennium 1921–1923*, Rangoon, 1924. For more on the management of the asylum, see J. Saha, Madness and the making of a colonial order in Burma, *Modern Asian Studies* 47 (2013) 406–435.

⁷⁵ For instance, it is referred to as the 'most perfect single food known to mankind' and its status as a 'natural' product that cannot be artificially reproduced is praised in *Report on the Marketing of Milk*, ii, 9, 36.

⁷⁶ See *Second Annual Report of the Harcourt Butler Institute of Public Health, Rangoon, For the Year 1927*, Rangoon, 1928, and following reports.

⁷⁷ E.H. Bunce, Investigations on milk standards under the Burma Food and Drugs Act, 1928, *Analyst* 57 (1932) 449–453; Anon., Report on the Burma Food and Drugs Acts, 1928 with recommendations for food standards, *Analyst* 58 (1933) 759–761.

⁷⁸ M. Adas, *The Burma Delta: Economic Development and Social Change on an Asian Rice Frontier, 1852–1941*, Madison, 1974; I. Brown, *A Colonial Economy in Crisis: Burma's Rice Delta and the World Depression of the 1930s*, London, 2005. However, it must be recognised that this expansion had pre-colonial roots, see: M. Adas, Imperialist rhetoric and modern historiography: the case of Lower Burma before and after conquest, *Journal of Southeast Asian Studies* 3 (1972) 175–192; P.A. Coclanis, Southeast Asia's incorporation into the world rice market: a revisionist view, *Journal of Southeast Asian Studies* 24 (1993) 251–267.

⁷⁹ C. Siok-Hwa, *The Rice Industry of Burma, 1852–1940*, Kuala Lumpur, 1968, 45–48.

cattle, particularly during the monsoon months. As a result, colonial officials were concerned about the supply of plough cattle. In particular, they worried that the bloodlines of the Burmese breed of oxen, apparently favoured by cultivators, were at risk. As with concerns about the spread of epizootic disease discussed in the previous section, Indian milch cattle were considered a particular threat. This imperial imperative to protect a so-called 'Burmese' breed of ox reified and naturalised Burma as a geographic entity, with Indian cattle figured as invasive.⁸⁰ These concerns were entangled with colonial policies regarding the human Indian population in the colony and with emergent Burmese nationalism.

There is not a trans-historically applicable definition of what makes a 'breed', and tracing their historical emergence is challenging. Ecological and genetic factors physically shaped animals in ways that were beyond human control, even guiding human action.⁸¹ According to the dominant mode of thinking about breeding in the late nineteenth and early twentieth centuries, a breed was conceived of as a population that corresponded to a particular ancestry.⁸² In this vein, breeding dairy livestock in Europe during this period relied upon inbreeding and selection on the basis of pedigree to achieve a purity of type. The aim was to raise consistently aesthetically-pleasing, and thus commercially recognisable, types of cow. Caution was aired about selecting purely for milk yields for fear of increasing susceptibility to disease.⁸³ In Burma, the predominant domesticated species of ox was *Bos indicus*, a species that was distinct from the European *Bos taurus*. Buffaloes were not widely used for dairy and became increasingly less favoured for agricultural work during the early twentieth century, falling as a proportion of labouring animals even further from their position in 1903, when they were already outnumbered by working oxen nearly five to one.⁸⁴ It was within the species *Bos indicus* that distinctions on the basis of breed were made.

Bos indicus was the same species as the oxen commonly found on the Indian subcontinent. British observers distinguished the Burmese oxen from the wider species group by defining them as a distinct breed. This was not a straightforward distinction for imperial natural historians to make. During the nineteenth century writers used different taxonomical labels for bovines and, at different times, used the terms bison, buffalo and ox in overlapping ways.⁸⁵ This confusion notwithstanding, the local ecological pressures and a long pre-colonial history of domestication would have been responsible for producing physical differences between oxen in India and Burma. The latter were described as

stockier and more powerful.⁸⁶ By the twentieth century this indigenous variety was viewed by British officials as being under threat from the importation of Indian oxen, predominantly used for producing milk, that 'promiscuously' mated in the colony.⁸⁷ So, whilst differences existed between Indian and Burmese oxen, these differences were ossified in an imperial taxonomic framework organised by the idea of the breed. Based on this, imperial policy sought to protect the hereditary features that they deemed typical to the Burmese 'purebred'; defined in colonial stock breeding reports as having no more than an eighth of exotic blood in them.⁸⁸

The colonial state had not always been concerned with protecting indigenous cattle from mixing with Indian stock. In the 1850s there were attempts made to improve the breed by importing Nellore bulls from India to sire cattle for beef, since it had proved very difficult for the military to acquire enough local slaughter cattle to meet the demands of European troops in the newly annexed portions of Lower Burma. These experiments were slow to produce results, but were not deemed to have been a total failure. Despite this, they do not appear to have been carried on into the 1860s.⁸⁹ This period represents the high point of imperial confidence in being able to improve the stock of domesticated animals in the colony. The government also attempted to establish a sheep farm at Thayetmyo, a town on the border of British Burma and still independent Upper Burma, but the scheme resulted in disastrously high mortality rates before it was abandoned in 1860.⁹⁰ After gleaning information on elephant breeding practices in the borderlands between Burma and Siam, the establishment of an elephant farm was even mooted in 1868, although the suggestion was not taken up.⁹¹

By the turn of the century the state was less inclined to embark on experiments in animal breeding. Instead, to improve the local breed of oxen, officials were encouraged to organise agricultural shows with prizes for the best specimens. These shows appear to have been entirely ineffectual, and in 1895 the deputy commissioner in charge of organising one show held in the delta actually forgot to turn up himself.⁹² The only attempt to 'improve' Burmese oxen was at F.J. Wrath's small-scale experimental farm near Mandalay that sought to increase milk yields using indigenous animals. Based on the results of some experiments conducted in India that examined the effects of early castration, the farm attempted to encourage Burmese cattle owners to perform early castration to protect bloodlines.⁹³ The state's attitude towards Burmese oxen had reversed from wanting to improve the breed through cross-breeding in the 1850s, to attempting to protect its purity in the 1900s. By 1917, a colonial report resolved to protect 'purebred'

⁸⁰ For histories of how breeding animals reified colonial cultures, see G. Bankoff, A question of breeding: zootechny and colonial attitudes toward the tropical environment in the late nineteenth-century Philippines, *The Journal of Asian Studies* 60 (2001) 413–437; S. Cheang, Women, pets, and imperialism: the British Pekingese dog and nostalgia for old China, *Journal of British Studies* 45 (2006) 359–387; A. Skabelund, Breeding racism: the imperial battlefields of the 'German' shepherd dog, *Society & Animals* 16 (2008) 354–371.

⁸¹ S. White, From globalized pig breeds to capitalist pigs: a study in animal cultures and evolutionary history, *Environmental History* 16 (2011) 94–120; Woods, From colonial animal to imperial edible.

⁸² Bankoff and Swart, Breeds of empire and the 'invention' of the horse, 11.

⁸³ B. Theunissen, Breeding without Mendelism: theory and practice of dairy cattle breeding in the Netherlands 1900–1950, *Journal of the History of Biology* 41 (2008) 637–676.

⁸⁴ IOR V/26/540/1: Report of the Stock Breeding Committee, 45.

⁸⁵ J. Crawford, Quadrupeds and other animals of Burma (1827); M.W. Charney (Eds), *SOAS Bulletin of Burma Research* 3 (2005) 530–533; Rev. F. Mason, *The Natural Productions of Burmah, or Notes on the Fauna, Flora, and Minerals of the Tenasserim Province and Burman Empire*, Maulmain, 1850, 247–250; E. Blyth, *Catalogue of Mammals and Birds of Burma*, Hertford, 1875, 47–49.

⁸⁶ Existing domestication was noted by British imperial writers, see Mason, *The Natural Productions of Burmah*, 248; and it was deemed a mark of 'civilization' by some, see J. Crawford, On the relation of the domesticated animals to civilization, *Transactions of the Ethnological Society of London* 2 (1863) 387–468. For more on imperial views on domestication, see D. Brantz, The domestication of Empire: human-animal relations at the intersection of civilization, evolution, and acclimatization in the nineteenth century, in: K. Kete (Ed.), *A Cultural History of Animals in the Age of Empire*, Oxford, 2007, 74–94.

⁸⁷ IOR V/26/540/1: Report of the Stock Breeding Committee, 37–38; *The Supply of Plough Cattle in Burma*, Agricultural Survey No.7 of 1928 Rangoon, 1929, 5, 31, 38, 53.

⁸⁸ IOR V/26/540/1: Report of the Stock Breeding Committee, 37.

⁸⁹ NAM 1/1(A) 244, 1856 File No. 66; NAM, 1/1(A) 246, 1856 File No. 68; 1/1(A) 309, 1857 File No. 38.

⁹⁰ NAM 1/1(A) 116, 1854 File No. 60; NAM, 1/1(A) 342, 1858 File No. 15; NAM, 1/1(A) 479, 1859 File No. 81; NAM, 1/1(A) 510, 1860 File No. 10.

⁹¹ NAM 1/1(A) 1400, 1868 File No. 508: 18 May 1868; 4 April 1868.

⁹² NAM 1/1(E) 13895, 1895 File No. 5A-1: 5 June 1895.

⁹³ IOR V/26/540/1: Report of the Stock Breeding Committee, 57.

draught cattle by restricting exotic and crossbred oxen to 'special areas' away from local breeding grounds.⁹⁴

This shift in attitude to the Burmese breed was brought about by a growing recognition of the importance of cattle to the production of rice in the Burma delta. Along with good, regular monsoons, healthy cattle were vital to agricultural production in the colony.⁹⁵ The stocky, strong Burmese ox, often bred in the Shan States and other northern parts of the colony, was thought to be especially suited to labour in paddy fields, particularly in comparison to the Indian variety. Through reports into breeding and the use of cattle, Burma was imagined as being constituted of upland areas where cattle were bred and the southern deltaic region where they were worked, often heavily in trying conditions.⁹⁶ This was an animal geography that was transgressed by mobile herds of milking cattle imported from India residing along the sides of waterways and in the railway towns that ran through the spine of the colony linking the southern districts to crucial nodes in the north and on the borders. Male calves were sold by Indian dairymen to supplement their incomes, encouraging further 'crossbreeding', alongside that instigated by the oxen themselves.⁹⁷ Following the colony's transportation network, migrant Indian cattle penetrated the spaces of both local animal breeding and animal labour.

To many officials, by the start of World War One the existing measures for protecting Burmese plough cattle from the 'evils' of Indian milch cattle were deemed inadequate. The push for greater controls began in 1915 with an agricultural and cooperative conference held in Mandalay. Although the extensive measures that were pushed for did not materialise, at least up until 1930, they reveal how colonial officials came to frame Indian cattle as a problem breed. The conference was attended by over nine hundred people from across Burma, including representatives of agriculturalists and state officials. It unanimously agreed that action had to be taken to protect indigenous cattle from Indian cattle. Their suggested course of action was three-pronged: taxation, prohibition and segregation. They argued that owners of milch cattle imported from India should be taxed per head of cattle, that they should be prohibited from importing and owning more than a limited number of cattle, and that they should be required to keep their animals segregated from Burmese cattle to prevent crossbreeding.⁹⁸

The dangers highlighted at this conference, of Indian cattle crossbreeding, trespassing and spreading diseases, were further reinforced in the 1917 official report into stock breeding in the colony. This report also echoed the conference's call for immediate remedial action to be taken, along the same lines as those advocated by the delegates.⁹⁹ Although no such action was taken, the concern did not go away. Ten years later the 1928 report into the supply of plough cattle lamented that the recommendations of the 1917 report had not been acted upon. This report was particularly concerned with crossbreeding, using photographs to illustrate the 'evil effects' of this mixture (see Figs. 2 and 3). The first image shows a 'purebred' Burmese bull which has a consistent colour, prominent hump and stocky build. The 'crossbred' cow in the second image, in contrast, has patchy

colouration, a smaller hump and is a skinnier animal. Through these images the author intended to identify and reify distinctive traits that defined the Burmese breed, using the photographs to help fix bodily difference.¹⁰⁰ Their recommendations again drew on those made in 1915 and 1917, but added that there should be a compulsory census of Indian breeders and forced castration of 'undesirable' animals.¹⁰¹

Attitudes to Indian cattle in the colony were conterminous with attitudes to Indian people. The interventions listed above can be considered as part of a wider range of state controls placed on Indian migrants to Burma. The timing of these committees was synchronous with inquiries into the sanitary conditions that Indian workers travelled and lived in, and into their role in the spread of smallpox. At the same time that these measures were taken to monitor and regulate Indian breeds of cattle, the state introduced compulsory medical checks and vaccinations on human arrivals from the subcontinent.¹⁰² In addition, the concerns expressed by officials contributing to these reports on cattle in Burma were indicative of British officialdom's paternalistic attitude towards the Burmese people, viewing their role as protecting the Burmese from the Indian and Chinese populations.¹⁰³ The administrative view of the colony, which by the turn of the century held it to be culturally distinct from India, was increasingly imagining it as a separate geopolitical entity. Officials began planning for it to be separated from British India.

During the interwar years anti-Indian sentiments gained ground within Burmese nationalism. Burma's initial omission from the 1919 Montagu-Chelmsford reforms, that introduced dyarchy to British India, sparked nationalist protests. Thereafter, the relationship with India was a hotly contested issue within nationalist politics. Politicians were divided between those against separation, fearing that governed separately the colony would not receive the benefits of reforms being negotiated for India, and those agitating for separation, railing against the perceived problems of uncontrolled immigration.¹⁰⁴ During this time, concern about mixed-race marriages between Indian men and Burmese women became prevalent. Indian migrants were figured by some as a threat to the *Bama* race and to Buddhism, fostering a xenophobic and misogynistic political climate.¹⁰⁵ There were a number of anti-Indian riots in the 1930s in which Indian casualties heavily outweighed Burmese. At the same time further immigration controls were passed. The 1935 Government of India Act was enacted in 1937 separating Burma from India and granting the colony its own constitutional arrangements for limited self-government. Whilst concerns about Indian dairymen and their cattle were not as pressing or acrimonious as those surrounding Indian creditors and low-skilled labourers, they nestled within the same political fault lines.

The colonial framing of the problems of dairy production informed nationalistic writing. A leading article in the Burmese-language daily, *The Sun*, addressed the issue of dairy farming in

¹⁰⁰ Anderson, *Legible Bodies*.

¹⁰¹ *Supply of Plough Cattle in Burma*, 5.

¹⁰² A. Kaur, Indian labour, labour standards, and workers' health in Burma and Malaya, 1900–1940, *Modern Asian Studies* 40 (2006) 425–475; Osada, An embryonic border.

¹⁰³ This attitude is apparent in imperial writings throughout the early twentieth century. See, for instance, H.T. White, *A Civil Servant in Burma*, London, 1913; M. Collis, *Trials in Burma*, London, 2008.

¹⁰⁴ For a comprehensive overview, see R. Taylor, *The State in Myanmar*, London, 2008, 175–218.

¹⁰⁵ C. Ikeya, *Refiguring Women, Colonialism, and Modernity in Burma*, Honolulu, 2011.

⁹⁴ IOR V/26/540/1: *Report of the Stock Breeding Committee*, 37.

⁹⁵ This was true for much of British India, see S. Mishra, Cattle, dearth, and the colonial state: famines and livestock in colonial India, 1896–1900, *Journal of Social History* 46 (2013) 989–1012.

⁹⁶ For the pre-colonial roots of one of these breeding sites, see Charney, *Livestock in the lower Chindwin*.

⁹⁷ IOR V/26/540/1: *Report of the Stock Breeding Committee*, 38, 50, 56.

⁹⁸ NAM 1/15(E) 7594, 1915 File No. 2C-3: 3 September 1915.

⁹⁹ IOR V/26/540/1: *Report of the Stock Breeding Committee*, 35–57.



Fig. 2. Young Burmese Bull – pure bred, *The Supply of Plough Cattle in Burma*, agricultural survey No.7 of 1928, Rangoon, 1929.

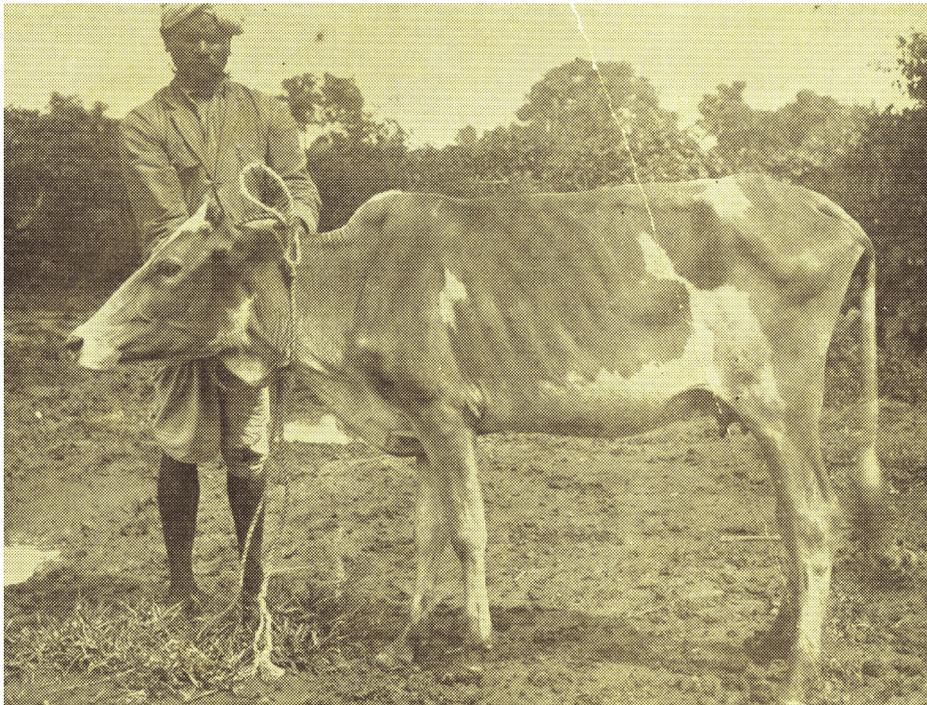


Fig. 3. Evil effects of crossing – cross-bred cow, *The Supply of Plough Cattle in Burma*, agricultural survey No.7 of 1928, Rangoon, 1929.

October 1915. The author attempted to encourage Burmese people to learn more about breeding dairy herds and to take it up for the sake of the country's prosperity, noting that the production of dairy was mostly in the hands of Indians with little knowledge. This meant looking after the breeding of cattle, something that was deemed at the time to be 'imperfect' (*ma phrañ' jū*). However, the writer also acknowledged that for many this work was thought to be of a bad sort (*durāciwa*).¹⁰⁶ The lack of milk production was figured as a developmental lag, with Indians viewed as a barrier to Burma overcoming its dependence on foreign dairy products. An earlier article had made the same observations about cattle breeding in the colony, noting that Burmese people were missing out on an economic opportunity since husbandry was predominantly done by Indians.¹⁰⁷ An article published that same year reported on a state-led conference into the milk supply in much the same vein. Echoing colonial concerns, the paper drew attention to the problem of Indian dairymen, referring to them as *Kalar*, a term that could hold derogatory connotations. The article warned of strategies that these Indian dairymen could deploy to avoid being caught adulterating milk with dirty water and unclean utensils. The article also warned that the milk could be poisoned (*achip'*) by them and no one would be able to find out.¹⁰⁸

The articles published in *The Sun* show a close engagement with imperial policy and reports. Building on the problems raised officially, Burmese journalists translated them into economic and social concerns for the nation's development. Moving into the interwar years, it is worth noting that official complaints about crossbreeding were being voiced at the same time as anxieties over relationships between Indian men and Burmese women were becoming increasingly prominent. Although I have no evidence of the two being explicitly connected, there was a representational link made between human strength and the health of cattle through the use of the ox to represent the Burmese peasantry in nationalist iconography; powerful but in need of leadership.¹⁰⁹ The extent of the overlap between human and animal concerns in Burmese nationalist thought deserves greater study.

Conclusion

The construction of herds of Indian dairy cattle as an epizootic and genetic threat to the Burmese ox was entangled with the realisation of the 'embryonic border' between India and Burma. Within the intertwined discussions of dairy consumption and production, as well as the welfare of oxen, Burma was implicitly reified as a geopolitical unit. Imperial imaginings of Burmese Buddhism offered an essentialising explanation for the relative absence of milk drinking in the colony. Indian dairy herds were figured as invasive entities, naturalising a political geography embodied in the Burmese breed of oxen. Uncovering the role of cattle as lively commodities in this history draws attention to the competing ways that their value as living creatures could be realised. Dairy herds were pitted against plough cattle in a

limited political ecology, particularly in the vast rice-producing delta. All this shows that in investigating the emergence of milk as a commodity in colonial Burma it is necessary be attentive to how space was produced. Burma was not a frontier in milk's otherwise inexorable 'conquest of space', as Valenze's narrative might suggest. Instead, the history of milk was entangled in the immanent geography of British Burma.

As well as shedding light on the more-than-human aspects of colonial Burma's political geography, the article is a warning against historical narratives about food that take the globe to be an unproblematic, ready-made space across which consumption habits have spread.¹¹⁰ Discussions of the globalization of consumption preferences that are inattentive to theorisations of space risk reifying political geographic frameworks. The anthropologist of milk, Andrea Wiley, has emphasised that long local histories have been pivotal in how milk has become increasingly globalized, making insightful comparisons between China, India and the USA.¹¹¹ Her work is a sophisticated response to some of the more blithe commentary on the globalisation of milk, but her work still takes these national units for granted. In addition, whilst she opens space for researching at different scales, her approach does not deconstruct how the scalar levels of local and global have been produced over time. She does not attempt to excavate the history of imperialism in the making of these scales. However, as this article has shown, the material and imaginative work involved in making, selling and consuming milk was not innocent of the spatial politics of colonial rule. As such, it encourages greater recognition that the geographic entities used to track and trace milk, and other commodities, across the planet have their own histories, histories shaped by the asymmetries and territorialisations of imperial power.¹¹²

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¹¹⁰ See, for a clear example of this, E. Frazão, B. Meade and R. Anita, Converging patterns in global food consumption and food delivery systems, *Amber Waves* 6 (2008) 22–29; for historical approaches that raise the issue of Eurocentrism and consider global interconnectivity, but do not historicise global space, see the introductory essays to R. Grew, *Food in Global History*, London, 2008, and J.-L. Flandrin and M. Monatanari, *Food: A Culinary History*, New York, 2013.

¹¹¹ A.S. Wiley, Transforming milk in a global economy, *American Anthropologist* 109 (2007) 666–677; A.S. Wiley, Milk for 'growth': global and local meanings of milk consumption in China, India, and the United States, *Food and Foodways* 19 (2011) 11–33.

¹¹² A. Burton, Not even remotely global? Method and scale in world history, *History Workshop Journal* 64 (2007) 323–328; S. Hodges, The global menace, *Social History of Medicine* 25 (2012) 719–728; J.D. Sidaway, C.Y. Woon and J.M. Jacobs, Planetary postcolonialism, *Singapore Journal of Tropical Geography* 35 (2014) 4–21.

¹⁰⁶ *The Sun (Suriyā)*, 16 October 1915, 11.

¹⁰⁷ *The Sun (Suriyā)*, 1 April 1915, 12.

¹⁰⁸ *The Sun (Suriyā)*, 1 June 1915, 13.

¹⁰⁹ See, for instance, the cover of the nationalist newspaper, *New Burma*, 23 February 1938.