

Colonising in the footsteps of elephants: Interspecies pathways through North-East India and beyond

Paul G. Keil [Department of Anthropology, Macquarie University, Australia]

Abstract: Paths enable easier movement throughout our environment whilst constraining and guiding our trajectories. In places where human and elephant habitat overlap, forest trails are produced, maintained, and shared by both species. Walking along *dandi* – Assamese for “elephant trails” – reveals how human and elephant lives have historically been intertwined, bound together by ecological, political, and cultural threads. This paper will explore the role of interspecies paths in the “human” history of North East India, beginning by focusing on the Mizo hills and how elephant trails partially enabled colonisation and movement through difficult terrain for both the British and ethnic upland communities. I will then continue to consider how elephant and other animal paths might have been important in opening up the geographical area referred to “Zomia”, and how the paths elephants traced enabled the migratory flows of people between the lowlands of South & South East Asia. Elephants, this paper will argue, were significant in giving shape to mutual ecological and historical niche of the region.

Introduction

While conducting ethnographic fieldwork in Assam, North-East India, I attended a puja on top of a hill used for shifting cultivation by a small community living in the forests close to Guwahati. After completing my observations, we descended the hill on the opposite side from which we climbed, towards a small stream where our motorbikes awaited. The descent was very steep and covered with very tall rice straw. Consequently, we had difficulty seeing where we were going and veered off course. In order to correct our approach, we needed to cut back lengthways across the hill. However, a rocky gully divided the hill, and from our vantage we were unable to ascertain at which part we could cross and how to reach that crossing.

Luckily, we stumbled upon the recent track of an elephant herd that had ascended and crossed its way through the shifting cultivation fields. Their bodies had crushed the farmer’s crops, but fortunately for us the traces of their movement opened up a fresh path between the rice stalks, and appeared to be going in our desired direction. Trusting in the elephant’s better judgement, and the clear passage offered, we followed the track as it negotiated the steep hill, found the appropriate crossing over the gully, and a suitable way down to our motorbikes.

While this track was only a temporary trace, when walking through the forested hills of elephant habitat, my meanderings would occasionally become intertwined with the more permanent trails of elephants. Revisiting the same route over time, the heavy feet of herds can wear away a flat, wide, and hardened track that cuts through vegetation. In Assamese, a path that elephants traffic frequently is called *dandi*; however, *dandi* are not used, nor given shape by elephants alone. Different animals, especially humans who depend on forest resources, also participate in these trails.

While I have begun in the ethnographic present, this paper will instead take a historical turn, and argue how elephant trails partially enabled humans to occupy the difficult upland terrain of North-East India and beyond. To begin, I will briefly consider what a forest path is, and then illustrate how elephants, tribal communities, and British soldiers, were entangled along shared trails in the Mizo hills in the late 19th century. Then, I will briefly analyse a biography of Lisu migration from upper Burma to India in the sixties, illustrating how elephant paths were exploited in unexplored terrain. These interspecies

trails reveal not only a co-constructed niche in which humans and elephants live, but also a more-than-human history of upland Asia.

Paths as mutual niche construction

Paths are what ecological psychologist James Gibson (1986) referred to as an “affordance”: a quality of the world that emerges from interaction between an organism and the environment, whereby that quality enables the organism to perform a particular action. When an organism engages a path – for, example, a clearing through dense vegetation – it perceives an aspect of its environment that affords movement.

Humans and elephant are both dramatic ecological engineers, their activities, directly or indirectly, modifying the niche in which they live and altering the affordances available to them. Paths are environmental modifications that enable movement, but also constrain it, and in turn shapes the course of an organism’s behaviour. The custom of following trails allows the traces of past travellers to scaffold and guide the trajectories of future ones. Further, to engage an elephant path is not simply to be guided but to *participate* in its making; trails are aspects of a shared ecological niche that are “constructed by interactions among multiple species over long periods of time” (Odling-Smee et al., 2013; p.12), and can serve as affordances for a variety of animals. Human and free-roaming elephant movement along forest paths do not simply overlap, but intertwine; their behaviours are coordinated by the constraints of the modified environment they mutually give shape to.

The case of the Mizo hills

If anthropocentric bias has ignored how captive elephants were vital to the formation of South Asian society, as a beast of war, for exploiting timber, transporting items, and as an all-terrain vehicle (Sukumar, 2011; Locke, 2013; Baker, 2016), then the same oversight exists for elephant ecosystem engineering. Not entirely unacknowledged however, there are scattered references to elephant paths within the colonial literature. For example, British lieutenant-colonel, Douglas Hamilton admired how:

The paths they [elephants] make over the ranges of hills they frequent are quite wonderful examples of engineering, and one cannot help being struck with the skill with which they are traced; the gradients are truly wonderful, avoiding every steep and difficult ascent by regular zigzags... [Hamilton, 1999, p.99]

In South India, the botanist Mr Ball praised the elephants that assisted him to perform his research:

On most of the hills, the elephants have made paths with a gentle ascent...where these existed I was enabled to do my work, [which] made me frequently bless them [the elephants] and regard them, no matter what they might be to the ryots [peasant cultivators], as at least my benefactors. [Ball. 1868, p.130]

In the North-East, British colonial surveyors, entrepreneurs, and military encountered a difficult terrain composed of densely forested hills. The Patkai, a mountainous range on the Indo-Myanmar border, was characterized by British as dominated by “slavers and raiders” and “covered with almost impervious jungle traversed only by paths used principally by wild elephants and as the war-tracks of tribes” (Nolan, 1879, p.114). Conflict between the British army and upland communities around the Mizo hills are well documented, the colonisers involved in a protracted war with groups who disrupted British tea gardens and other outposts that had encroached on indigenous territories. In response, colonial forces advanced into the Mizo hills, to exert control and force submission. In the accounts of the Mizo hills incursion, numerous mentions of elephant paths are found.

The lives of the Mizo hill communities at the time were intimately engaged with free-roaming elephants with whom they lived alongside.¹ Settlements were organised in relation to elephant movement patterns, fields were planted careful to avoid pre-established routes, and some villages were located at the end of “ages old” elephant trails (Meirion Lloyd, 1991). The Mizo were also proficient elephant hunters, and elephant body parts formed a significant part of their economic trade with the neighbouring plains (Joshi, 2005).² British forces, when marching into the Mizo hills, found it to be sparsely inhabited, with few established trails (Pachau & Schendel, 2015), the army dependent on riverbanks or the tracks of elephants. The Mizos, as local inhabitants and elephant hunters, had intimate knowledge of and exploited these tracks (Mackenzie, 1884), and British expeditions in turn exploited the landscape knowledge of guides from “neutral” communities. In some cases, the elephant paths were such good quality that they “looked in parts as neatly defined as if it had been done by hand” (Bourchier, 1872, p.136). However, not sculpted by elephant foot alone, the British found paths that led to Mizo villages that were “engineered by wild elephants and improved and used by the Looshai [Mizo]” (Campbell, 1872, p.151). In turn, apparently old Mizo trails were reciprocally maintained and kept open by local megaherbivores (Pachau & Schendel, 2015). In some cases, the army themselves further widened tracks to facilitate the march of soldiers and transport of items into the interior towards the offending Mizo communities (Bourchier, 1872; Woodthorpe, 1873).

Elephant paths afforded the flow of people through the dense jungle, and it was along these co-produced interspecies trails that the British were able to advance into hills, survey the area, subjugate the Mizo population, and colonise the periphery of British India. This exploitative and participatory relationship with another species’ environmental modifications is not exceptional. For example, the initial occupation and settlement pattern of American colonisers, in the Ohio valley, North America, followed an “extensive system” of buffalo migratory trails: “American settlement was firmly rooted in the changing ecological complex of the [American] Indian and the bison” (Jakle 1968, p.305). Likewise, when the British advanced into Mizo hills, they became intertwined in a co-constructed ecological niche, a biotic and abiotic environment shaped by Mizo and elephant communities for several hundred years.³ Along these shared pathways the Mizo, the British, and the elephants became partners in the formation of place and history, the trails an environmental interface that indirectly and directly connected each actor at social and behavioural levels (see Fuentes, 2010).

More-than-human history of Zomia

Thinking on an evolutionary scale, archaeologist Gary Haynes argued that megaherbivores during the Pleistocene era, not only engineered ecosystems, “but also contributed information and enhancements to human foraging efficiency, thereby helping to make some rapid explorations, dispersals, and colonization so successful” (Haynes, 2006 p.29). In other words, human migration and evolutionary history was entangled with the lives and niches of the elephant’s proboscidean ancestors. Meirion Lloyd, a mid-20th century missionary in Mizoram, offered a similar observation for the Patkoi range, calling elephants “discoverers”, stating that “...it was they who, in the west especially, first opened up a number of important paths over mountains and through deep valleys” (Meirion Lloyd, 1991, pp.119).⁴ Following in the footsteps of elephants enabled human populations to colonise the hilly regions and move over the high passes along the Indo-Myanmar border. Some of these people would have significant impact on the social and biological ecology of North-East India.

The Christian missionary, Eugene Morse’s account of the Lisu community fleeing upland Burma from the military junta in the 1960s (Morse, 1974), illustrates how the persistent traces of elephant movement can assist migration. In Morse’s book, *Exodus to the Hidden Valley*, elephant paths were environmental features identified as determining

the success of Lisu migration. The Lisu traversed mountainous areas west towards the borders of India and the Patkoi range, close to the Chaukan Pass. The terrain was long uninhabited, Morse noting that there were no dedicated human roads and to cover the “remote” and “hostile” environment, they “followed, as all hill people do, narrow animal trails” (p.22). The Lisu both cut their own way with machetes, and relied upon elephant engineering in order to traverse the mountainous jungle. Travellers assembled and oriented themselves at the junctions of elephant paths, and to ascend steep hills, would follow the zig-zagging tracks of herds. Discussing which routes were possible, sceptical of which high passes might be achievable, the Lisu trusted in the existence of elephant paths to follow, claiming the tracks would make their ascent easy and show where to cross between ridges (p 52). Despite the difficult conditions, and lack of food that plagued them during migration and later settlement, the Lisu expressed their customary hesitancy to kill elephants, “because they are such good trail makers” (p.118).

Trails, however, are not simply structural features of a shared environment. Anthropologist Chris Tilley notes that a path is “a paradigmatic cultural act, since it follows the footsteps inscribed by others, whose steps have worn a conduit for movement which becomes the correct or best way to go” (Tilley, 1994, p.31). In this respect elephant paths are historical traces of a “way of life” (van Dooren, 2014): traces of the relationships of elephant communities moving between foraging sites, patterns nurtured within a lifetime and across generations, and that continue to guide future ones. The “best way to go” for the Lisu had already been inscribed into the landscape by elephants; By following the routes over high passes that elephants would take, the Lisu participated in the inter-generational habits and knowledge of these trail-makers. The lines between human and nonhuman become blurred, as the Lisu’s own trajectories become intertwined with and guided by the elephant benefactors who came before them. By following these paths, the Lisu became part of a *more-than-human* history.

Finally, whilst it is outside the scope of this paper, this interspecies relationship has broader implications for thinking about a more-than-human history of upland Asia. In particular, the interconnected hilly range extending from the Patkai through Burma, South China and into South-East Asia, referred to most recently by James. C. Scott, as “Zomia”.⁵ For thousands of years, elephants flourished in the lowlands of Asia prior to aggressive, state driven, agricultural expansion (Santiapillai & Jackson, 1990, Elvin, 2008; Fleische, et al 2001). Up until the twentieth century herds ranged extensively and in large numbers throughout Zomia, which is now among the last bastions for surviving Asian elephant populations.⁶ Humanity’s first expansion into this region was estimated at 4-5,000 years ago (Michaud, 2006). It is a geography shaped by the constant migration of diverse, relatively isolated, ethnic communities living amongst difficult terrain and moving between lowland states (Michaud, 2010; Scott, 2009).⁷ Upland communities, such as the Lisu and the Mizo, have been to differing degrees in vital exchange and contributing to the formation of the powerful lowland states, and sharing a “deep history of symbolic, economic, and human traffic” (Scott, 2009 pp.27).⁸ If Zomia can be characterised by the challenges of its terrain and shifting human population, then the history of this space was, arguably, facilitated in parts by the ecosystem engineering of free-roaming elephants; wide, open paths afforded better access and offered guidance through the upland areas, playing a role in the unfolding social and political dynamics of Asia.

To conclude: paths are important aspects of human and elephant niches. This paper asks that when understanding patterns of human behaviour, we take into account indirect interaction with free-roaming elephants through co-constructed trails. The movement of both species in the difficult terrain of North-East India and beyond, were in parts intertwined and coordinated. Human migration narratives, settlement patterns, social and political history were structured and afforded by elephant ecosystem engineering; participating in paths with elephants enabled the occupation of the Mizo hills and the successful migration of the Lisu through upper Burma. To colonise in the footsteps of

elephants is to take part in the historical traces of elephants with whom humans share place. Humans do not necessarily forge their own paths, as anthropologist Tim Ingold notes, but very often “take over from where non-humans have left off” (Ingold, 2011, p. 24).⁹

NOTES

1. The Mizos settled the region sometimes in the 16th century (Pachauau, 2009).
2. Incursions of British tea gardens would have likely disrupted elephant hunting grounds.
3. Other mutual ecosystem effects could include the ecologies that grew from shifting cultivation left fallow, or the plants that remained in the wake elephant foraging and defecation.
4. While Meirion Lloyd’s point is interesting for the sake of illustration on the significance of elephants, I would be hesitant to make any claims of original causes to any of the important migration routes over the Patkoi. For instance, the Chaukan pass, has long been followed by humans and elephants alike. An elephant trail in the 19th century was observed at 9,000 feet, which P.D. Stracey concluded, “must have been made by generations of wild elephants migrating to and fro across the Patkoi ranges” (Stracey/ 1963/1991 p. 27, see also Chowta & Gautier, 2001). Stracey further noted how the Chaukan pass was also a channel for the flow of humans and captive elephants, the elephant-handling Tai-Khamti community continuing to use the pass they originally migrated along 200 years earlier. Humans and elephants have long been entangled in a co-constructed niche (Locke, 2013) and attempts to disentangle and determine beyond speculation who came first – the elephant or the human – would be dependent more on speculation than evidence.
5. Van Schendel (2002) originally coined the term, although it identified upland areas as far as Tibet and Afghanistan. Michaud (2010) identifies a similar geographical range he referred to as the South East Asian Massif.
6. In fact, despite dwindling populations and habitat, the upland area remains one of the last bastions of Asian elephant populations. Interestingly, Mark Elvin’s description of the “retreat of the elephants” to the hills of Yunnan from plains of China in the face of state-sponsored landscape modification over 2000 years (see Elvin, 2008) draws some parallels to Scott’s conceptualisation of upland-lowland political dynamic.
7. While Scott’s over-generalisation of the differences and the dynamics between upland-lowland communities from an anarchist perspective has been critiqued (i.e., see Brass 2012), his basic arguments regarding the historical importance of upland Asia, and his perceptions about the nature of the terrain still hold.
8. Elephants, captured, travelled on, and traded, were of course important actors in connecting this exchange
9. Please note, parts of this conference paper belong to a larger chapter on elephant pathways to be submitted in a PhD thesis in Anthropology in February, 2017.

References

- Baker, J. (2016). Transspecies colonial fieldwork: elephants as instruments and participants in mid nineteenth-century India. In, P. Locke & J. Buckingham (eds.), *Rethinking Human-Elephant Relations in South Asia*
- Ball, V. (1868), Midnapore, 12th March. In, *Proceedings of the Asiatic Society of Bengal 1868*. Calcutta: C.B. Lewis, Baptist Mission Press
- Bourchier, G. (1872) Commanding Eastern Frontier District, to the Quarter Master General of the Army. In, *Accounts and Papers of the House of Commons, vol XLV*.
- Brass, T. (2012). Scott's "Zomia," or a Populist Post-modern History of Nowhere. *Journal of Contemporary Asia*, 42(1), 123-133.
- Campbell, G. (1872) Chittagong & Cachar Frontier. In, *Accounts and Papers of the House of Commons, vol XLV*.
- Chowta, P. & Gautier, P. 2001. The old elephant route. *Aane Mane Foundation Report*.
- Elvin, M. (2008). *The Retreat of the Elephants: An environmental history of China*. New Haven: Yale University Press.
- Fleischer, R. C., Perry, E. A., Muralidharan, K., Stevens, E. E., & Wemmer, C. M.. (2001). Phylogeography of the Asian Elephant (*Elephas maximus*) Based on Mitochondrial DNA. *Evolution*, 55(9), 1882–1892.
- Fuentes, A. (2010). Naturalcultural Encounters in Bali: Monkeys, temples, tourists, and ethnoprimateology. *Cultural Anthropology*, 25(4), 600–624.
- Gibson, J. J. (1986). *The Ecological Approach to Visual Perception*. New York: Psychology Press.
- Hamilton, D. (1999) Elephants. In D. K. Lahiri Choudhury (ed), *The Great Indian Elephant Book: An anthology of writings on elephants from the Raj*. New Delhi: Oxford University Press.
- Haynes, G. (2006). Mammoth Landscapes: Good country for hunter-gatherers. *Quaternary International*, 142-143(1), 20–24.
- Ingold, T (2011). *Being Alive: Essays on movement, knowledge and description*. New York: Routledge.
- Jakle, J. A. (1968). The American Bison and the Human Occupance of the Ohio Valley. *Proceedings of the American Philosophical Society*, 112(4), 299–305.
- Joshi, H. (2005). *Mizoram: Past and Present*. New Delhi: Mittal Publications.
- Lloyd, J. M., & Board, S. P. (1984). *On Every High Hill*. Synod Publication Board.
- Locke, P. (2013). Explorations in Ethnoelephantology: Social, Historical, and Ecological Intersections Between Asian Elephants and Humans. *Environment and Society: Advances in Research*, 4(1):79-97.
- Mackenzie, A. (1884) *History of Relations of the Government with the Hill Tribes of the North East Frontier of Bengal*. Calcutta: Home Department Press.
- Meirion Lloyd, J. (1991) *History of the Church of Mizoram: Harvest in the hills*. Mizoram: Synod Publication Board.
- Michaud, J. (2006). *Historical Dictionary of the Peoples of the Southeast Asian Massif*. Oxford, UK: Scarecrow Press.
- Michaud, J. (2010). Editorial – Zomia and beyond. *Journal of Global History*, 5(2), 187–214.

- Morse, E. (1974). *Exodus to a hidden valley*. New York: Reader's Digest Press.
- Nolan, E. H. (1879). *The illustrated history of the British Empire in India and the East, from the earliest times to the suppression of the Sepoy Mutiny in 1859: With a continuation to the end of 1878, Volumes 2-3*. London: James & Virtue.
- Odling-Smee, J., Erwin, D. H., Palkovacs, E. P., Feldman, M. W., & Laland, K. N. (2013). Niche Construction Theory: A practical guide for ecologists. *The Quarterly Review of Biology*, 88(1), 3-28.
- Pachau, R. (2009). *Mizoram: A study in comprehensive geography*. New Delhi: Northern Book Centre.
- Pachau, J. L. K., & Schendel, W. van. (2015). *The Camera as Witness*. New Delhi: Cambridge University Press.
- Saikia, A. (2011). *Forest and ecological history of Assam, 1826-2000*. New Delhi: Oxford University Press.
- Santiapillai, C., & Jackson, P. (1990). *The Asian elephant: an action plan for its conservation*. IUCN.
- Shell, J. (2015). When Roads Cannot Be Used: The Use of Trained Elephants for Emergency Logistics, Off-Road Conveyance, and Political Revolt in South and Southeast Asia. *Transfers: Interdisciplinary Journal of Mobility Studies*, 5(2), 62-80.
- Stracey, PD (1991). *Elephant Gold*. New Delhi: Nataraj publishers.
- Sukumar, R. (2011). *The Story of Asia's Elephants*. New Delhi: Marg Foundation.
- Susi, T., & Ziemke, T. (2001). Social cognition, artefacts, and stigmergy: A comparative analysis of theoretical frameworks for the understanding of artefact-mediated collaborative activity. *Cognitive Systems Research*, 2(4), 273-290.
- Tilley, C. Y. (1994). *A phenomenology of landscape: places, paths, and monuments*. Oxford: Berg.
- Van Schendel, W. (2002). Geographies of knowing, geographies of ignorance: jumping scale in Southeast Asia. *Environment and planning D: society and space*, 20(6), 647-668.
- Woodthorpe, R. G. (1873). *The Lushai Expedition, 1871-1872*. London: Hurst and Blackett.

CV: Paul Keil is a PhD Candidate in social anthropology, from Macquarie University, Australia, investigating human-elephant relationships and supervised by Dr Greg Downey and Dr Piers Locke. A Prime Minister's Endeavour award recipient, Paul conducted 18 months of ethnographic fieldwork in Assam, amongst communities who live on the fringes of elephant habitat and must negotiate place with these formidable animals. His anthropological research attempts to speak across disciplines and find ways of conceptualising social worlds populated by both human and nonhuman agents. Before elephants, Paul conducted ethnographic research on interspecies distributed cognition in sheepdog trialling, and experimental psychological studies on collaborative remembering in older couples.

E-mail: paul.keil@mq.edu.au

¹ The Mizos settled the region sometimes in the 16th century (Pachau, 2009).

² Incursions of British tea gardens would have likely disrupted elephant hunting grounds.

³ Other mutual ecosystem effects could include the ecologies that grew from shifting cultivation left fallow, or the plants that remained in the wake elephant foraging and defecation.

⁴ While Meirion Lloyd's point is interesting for the sake of illustration on the significance of elephants, I would be hesitant to make any claims of original causes to any of the important migration routes over the Patkoi. For instance, the Chaukan pass, has long been followed by humans and elephants alike. An elephant trail in the 19th century was observed at 9,000 feet, which P.D. Stracey concluded, "must have been made by generations of wild elephants migrating to and fro across the Patkoi ranges" (Stracey/ 1963/1991 p. 27, see also Chowta & Gautier, 2001). Stracey further noted how the Chaukan pass was also a channel for the flow of humans and captive elephants, the elephant-handling Tai-Khamti community continuing to use the pass they originally migrated along 200 years earlier. Humans and elephants have long been entangled in a co-constructed niche (Locke, 2013) and attempts to disentangle and determine beyond speculation who came first – the elephant or the human – would be dependent more on speculation than evidence.

⁵ Van Schendel (2002) originally coined the term, although it identified upland areas as far as Tibet and Afghanistan. Michaud (2010) identifies a similar geographical range he referred to as the South East Asian Massif.

⁶ In fact, despite dwindling populations and habitat, the upland area remains one of the last bastions of Asian elephant populations. Interestingly, Mark Elvin's description of the "retreat of the elephants" to the hills of Yunnan from plains of China in the face of state-sponsored landscape modification over 2000 years (see Elvin, 2008) draws some parallels to Scott's conceptualisation of upland-lowland political dynamic.

⁷ While Scott's over-generalisation of the differences and the dynamics between upland-lowland communities from an anarchist perspective has been critiqued (i.e., see Brass 2012), his basic arguments regarding the historical importance of upland Asia, and his perceptions about the nature of the terrain still hold.

⁸ Elephants, captured, travelled on, and traded, were of course important actors in connecting this exchange

⁹ Please note, parts of this conference paper belong to a larger chapter on elephant pathways to be submitted in a PhD thesis in Anthropology in February, 2017.