

Border as infrastructure: violence and the technopolitics of connectivity and containment

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The XCEPT *Theories of Border Violence* Series publishes theoretically informed research on the causes and consequences of political violence in contemporary borderlands. Authored by leading scholars in the field, the series offers heterodox interpretations of conflict, power and governance in and across globally entangled borders, borderlands and frontiers.

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Summary

In recent decades, the expansion of biometric surveillance has displaced and multiplied borders across the world. This is reflective of how border infrastructure – beyond its publicly acknowledged role of enhancing connectivity – operates as a tool of securitisation, legitimising certain forms of exchange and mobility while marginalising others. Drawing on the author's long-term ethnographic research along the China–Pakistan and China–Myanmar borders, coupled with analysis of the existing literature, the paper shows how infrastructural assemblages articulate state power, impact the politics of mobility, and animate political violence in borderlands.

Whereas *border infrastructures* refers to the material apparatus through which states manage mobility and project authority in borderlands (e.g. roads, railways, fences, checkpoints, markets, pipelines, biometric databases), the *border as infrastructure* denotes the wider socio-technical configuration these elements compose. Crucially, rather than treating infrastructures as passive instruments of state power, the latter lens spotlights the agency exerted by infrastructural arrangements.

Border infrastructure enacts various forms of violence, from spectacular episodes of armed conflict to the more insidious 'slow violence' of everyday hardship, denial of movement and environmental harm. Despite such infrastructures being presented as neutral vehicles of 'development' and connectivity, it is often local communities who bear the brunt of displacement, militarisation and environmental degradation. At the same time, border infrastructures – precisely because they epitomise state power – are often turned into sites of resistance, sabotage and state evasion. In this way, border infrastructures mark both the limits and persistence of state power.

The paper's argument can be summarised as follows. First, border infrastructures are central to a contemporary regime in which connectivity and securitisation are mutually constitutive: roads, corridors and digital networks introduced to enhance flows also lead to new chokepoints, surveillance capabilities and exclusionary practices. Second, these infrastructural arrangements enact forms of violence that are often slow, dispersed and racialised, exposing certain populations to heightened risk and reduced mobility while shielding and enabling others. Third, infrastructural agency means that, once built, these systems shape conflict trajectories in ways not envisaged by planners or states.

Recognising the border as infrastructure has real-life policy implications. Beyond legal reform or conventional diplomacy, efforts aimed at reducing border-related violence must engage with the material layout and 'technopolitics' of border infrastructures themselves. A border as infrastructure perspective is vital when it comes to unpacking the material and technological architectures produced by connectivity and securitisation. Only then can we reconfigure these architectures in ways that diminish – not reproduce – the violence characteristic of increasingly infrastructured borders.

Introduction

It was in May 2013 as I was traversing the Khunjerab Pass from China into Pakistan – a full 4,600 metres above sea level – that I first found myself reflecting on the infrastructural nature of border spaces. The boundary between the two countries was marked by a looming border gate, which our small bus drove through without stopping. The gate itself was striking: a lone symbol of state power amid the barren, high-altitude landscape of the Karakoram mountains, adorned with China's distinctive red flag. What struck me as strange about the border gate was that it did not appear to serve any particular function. For instance, there were no border guards permanently stationed at the gate itself. Instead, they resided and worked in facilities situated a few hundred metres either side of the boundary line, the lower altitudes protecting them from the chill winds that cut through the mountain pass. The immigration and customs facilities, meanwhile, were sited dozens of kilometres from the Khunjerab Pass in Tashkurgan (on the Chinese side) and Sost (on the Pakistani side). In other words, the border seemed to stretch way beyond the actual boundary line, to the extent that the presence of the border gate felt purely performative.

I have since gone on to conduct around a decade of ethnographic work in those borderlands. Over time, I realised that the infrastructure that mattered most was not in fact the gate, but what lay beneath the wheels of our bus. The Karakoram Highway – the only road connecting China and Pakistan – is subject to frequent disruption and closures, with the materiality of the road speaking to the power differentials at play: wide and well paved on the Chinese side, narrow and bumpy on the Pakistani side. Border infrastructures, I came to understand, are imbued with state power. As such, they provide a useful entry point for understanding how the state is perceived, enacted and resisted.

With this in mind, the following paper applies an infrastructure lens to the study of borders and cross-border mobility. In doing so, I argue that border infrastructure, beyond its publicly acknowledged role of enhancing connectivity, operates as a tool of securitisation, consolidating a particular model of state sovereignty. Examining new roads, energy corridors and biometric surveillance systems allows us to see how these elements form a coherent regime of infrastructural governance, legitimising certain forms of exchange and mobility while marginalising others.¹ Border infrastructure enacts various forms of violence as part of these processes, from spectacular episodes of armed conflict to the more insidious 'slow violence' of everyday hardship, denial of movement and environmental harm.

The above understanding of border infrastructures requires a shift in how we perceive complex technological systems. Broadly speaking, this means ascribing agentive power to infrastructures, which once constructed are never limited to the characteristics envisaged by their planners. The political effects arising from this mismatch between intention and reality frequently (re)shape policy outcomes. More specifically, 'infrastructure power' manifests in the logic of connectivity and securitisation,² which in turn determines how power and authority are wielded by state authorities and challenged by

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- 1 See S. Mezzadra and B. Neilson, *Border as method, or, the multiplication of labor* (Durham, NC: Duke University Press, 2013); N. de Genova, *A labor theory of borders: border regimes and border violence* (XCEPT *Theories of Border Violence*, forthcoming); M. Watts, *Frontiers and borders as social space: state, territory, violence and the worlds of extractive capitalism* (XCEPT *Theories of Border Violence*, forthcoming).
 - 2 T. Oakes, 'Infrastructure power, circulation and suspension', *Advances in Southeast Asia Studies* 16: 2, 2023, pp. 297-303; T. Oakes, 'Global China and infrastructure power: the technopolitics of the "China Model" of development', *Georgetown Journal of Asian Affairs* 10, 2024, pp. 84-93.

others.³ The construction and operation of border facilities are, as in the case of the Khunjerab Pass and Karakoram Highway, performative acts of statehood: they signal belonging, enforce exclusion and shape subjectivities. At the same time, border infrastructures – precisely because they epitomise state power – are sites of resistance, sabotage and state evasion. Thus, border infrastructures mark both the limits and persistence of state power.

The infrastructural lens used in this paper also foregrounds the slow violence that lurks in the shadow of more spectacular forms of conflict. Slow violence manifests in numerous ways, including the gradual denial of mobility; racialised and gender-based discrimination; environmental degradation; and the everyday hardships arising from restrictive border infrastructures.⁴ By focusing on the material and technical dimensions of borders, we can gain a better vantage point for surveying the political violence and instability present in border spaces.

Border infrastructures are not merely descriptive features of border materiality. On this point, the paper distinguishes between *border infrastructures* and the *border as infrastructure*. Whereas the former term refers to concrete assemblages of roads, railways, fences, checkpoints, markets, pipelines, biometric databases and digital networks (in other words, the material apparatus through which states manage mobility and project authority in borderlands), the latter denotes the wider socio-technical configuration these elements compose: a distributed system that not only reflects but actively produces social relations, subjectivities and political hierarchies. Put another way, the border as infrastructure spotlights the agency exerted by infrastructural arrangements, including the forms of violence they enact, rather than treating infrastructures as passive instruments of state power.

A growing body of work over recent years has sought to conceptualise borders in precisely these terms. Dijstelbloem, for instance, argues that borders are active socio-technical infrastructures whose politics emerge from the entanglement of materiality, mediation and movement – a form of technopolitics.⁵ Through a focus on European migration dynamics, Dijstelbloem shows borders to be assemblages of tools, networks, institutions, and human and non-human actors that connect multiple spatial scales, differentiate populations, and manage regimes of vision and movement. In this way, borders as infrastructures materialise political ideas and rework them into everyday practice.

Building on such scholarship, this paper makes the case that infrastructure not only shapes political violence, but gives a productive analytical foothold for understanding its various forms. Drawing on my own long-term ethnographic research along the China–Pakistan and China–Myanmar borders, coupled with analysis of the existing literature, the remaining sections set out how infrastructural assemblages articulate state power, impact the politics of mobility, and animate political violence in borderlands.

More specifically, the paper proceeds as follows. Drawing on the past two decades of social science research, section 1 sets out how ‘infrastructure’ has come to be understood as a concept, particularly as it relates to border spaces, and the role it plays in enacting various forms of violence. Next, section 2 delves into the dual role played by border infrastructures – namely, facilitating connectivity across boundaries

3 M. Mann, ‘The autonomous power of the state: its origins, mechanisms and results’, *European Journal of Sociology* 25: 2, 1984, pp. 185–213.

4 J. Sarma, *Toxic borderscapes: an agenda for understanding the entangled geographies of border and environmental violence* (XCEPT *Theories of Border Violence*, forthcoming); B. Anderson, N. Brinham and N. N. Kyaw, *Citizenship unsettled: rethinking legal and social identities in conflict-affected borderlands* (XCEPT *Theories of Border Violence*, forthcoming); N. Manchanda, *The spatial lives of racial capitalism: borders, frontiers, and borderlands* (XCEPT *Theories of Border Violence*, forthcoming).

5 H. Dijstelbloem, *Borders as infrastructure: the technopolitics of border control* (Cambridge, MA: MIT Press, 2021).

(for certain groups, at least) while at the same time intensifying the securitisation of border areas and cross-border flows. Section 3 then details how the transnational nature of infrastructure projects has turned many of them into magnets for protest and resistance, often provoking further militarisation on the part of the state. Building on this, section 4 turns to the surveillance technologies that have become increasingly prevalent in contested border spaces, and which for the most part are being deployed in the service of racial capitalism. Finally, the conclusion elaborates on how the insights provided by a border as infrastructure perspective can help inform both scholarly debate and policy-making.



Image 1. The Khunjerab Pass gate (photo by Alessandro Rippa, 2013).

1. Infrastructure studies and border spaces: a new analytic

Border spaces tend to feature multiple, overlapping layers of infrastructures. Perhaps most prominent are the *infrastructures of connectivity* designed to channel flows and exchanges across boundary lines (e.g. roads, railways, energy pipelines). These, however, often exist alongside *infrastructures of containment* (e.g. artificial barriers, walls, patrolled roads running parallel to the boundary line). Both sets of infrastructure have a key function: to categorise and filter populations and goods. This includes facilitating or restricting the flow of travellers according to how desirable their presence is. In addition, border areas increasingly feature advanced *surveillance infrastructures* (e.g. biometric technologies, movement sensors, digital networks) aimed at streamlining the management of mobility. These may be sited either at a physical checkpoint or, as is becoming more common, long before it is reached.

Given this plurality of forms and purposes, how do we even go about thinking of the border as infrastructure? Before answering this question, it is perhaps best to define what an infrastructure actually *is*, and why thinking infrastructurally can help us understand violence in border spaces.

The term ‘infrastructure’ has grown in popularity over recent years among social science and humanities scholars, including those working on borders and political violence. Yet its precise meaning, as well as the contours of infrastructure as an analytic, remains vague. Generally speaking, infrastructure is understood as a complex material system made up of heterogeneous components, which together function as the substrate upon which other forms of movement and action occur. Railways, power lines and data centres provide notable examples in this respect: technological systems that respectively enable trains to run, electricity to travel and digital information to appear on a laptop screen. Some scholars have expanded the term to encompass natural features, such as watersheds and forests, micro-organisms and even human communities.⁶ Regardless of how broadly the term is applied, a key common denominator is that infrastructures are relational – that is, not only things in themselves ‘but also the relation between things’.⁷ Thus, the importance of infrastructures lies, at least in part, in what they *enable*.

It is important to acknowledge that – complex, heterogeneous and relational as they are – infrastructures are not neutral. Rather, they are used to achieve, enforce or contest political goals.⁸ As Murton succinctly puts it, infrastructure ‘moves power spatially through built environments’.⁹ In doing so, infrastructures hold the potential to catalyse or reconfigure political projects, as well as political violence.¹⁰ The geometry of a road, for example, determines who gets to access markets and opportunities, while the placement of a

6 A. Carse, ‘Nature as infrastructure: making and managing the Panama Canal watershed’, *Social Studies of Science* 42: 4, 2012, pp. 539–63; Alessandro Rippa, ‘Infrastructure and the environment in anthropology’, *Social Science Information* 63: 1, 2024, pp. 25–46; A. Zhang, ‘Circularity and enclosures: metabolizing waste with the black soldier fly’, *Cultural Anthropology* 35: 1, 2020, pp. 74–103; A. Simone, ‘People as infrastructure: intersecting fragments in Johannesburg’, *Public Culture* 16: 3, 2004, pp. 407–29.

7 B. Larkin, ‘The politics and poetics of infrastructure’, *Annual Review of Anthropology* 42, 2013, pp. 327–43 at p. 339.

8 H. Knox and E. Gambino, ‘Infrastructure’, in Felix Stein, ed., *The open encyclopedia of anthropology* (2023); S. Venkatesan et al., ‘Attention to infrastructure offers a welcome reconfiguration of anthropological approaches to the political’, *Critique of Anthropology* 38: 1, 2018, pp. 3–52.

9 G. Murton, ‘Infrastructure’, in C. Flint, ed., *Elgar concise encyclopedia of geopolitics* (Cheltenham: Edward Elgar, 2026), pp. 98–102 at p. 98.

10 See also P. Schouten et al., ‘Paths of authority, roads of resistance: ambiguous rural infrastructure and slippery stabilization in eastern DR Congo’, *Geoforum* 133, 2022, pp. 217–27.

checkpoint both marks the reach of state authority and signals its vulnerability. Infrastructures are infused with the ideologies of their creators, which are then reflected in how they are used to shape social order and govern populations. At the same time, infrastructure possesses an agency of its own, defined by both the political projects it is a part of and the very materiality of built spaces. In short, infrastructure has a politics – or, as scholars tend to put it, ‘techno-politics’.¹¹

Border spaces are an obvious vantage point from which to observe the political nature of infrastructure systems.¹² Here, border fences, customs houses and surveillance technologies provide the material scaffolding that allows a state to exert authority, control flows, manage resources and embed itself in the daily lives of its citizens. As is the case for the Khunjerab Pass, such infrastructures are often intrusive and eminently spectacular, with state power projected via the construction of huge border gates or the deployment of heavy military forces.¹³ Border infrastructures thus function as capacious technologies of state territorialisation, transforming abstract, bounded space into controlled, integrated territory.¹⁴

Border infrastructure also enacts various forms of violence. While this may take place in dramatic fashion, it more often involves enduring – often invisible and dispersed – harms that unfold over time.¹⁵ This ‘slow’ violence arises from the fact that physical barriers, surveillance technologies and bureaucratic systems are designed to make certain types of movement hazardous, exhausting and often – whether through neglect, exclusion or environmental exposure – lethal.¹⁶ Such violence is often motivated by racialised, gender-based or ethnically driven considerations, and is especially impactful on stateless people, refugees, migrants and the displaced.¹⁷ Crucially, these dynamics are not an unfortunate side-effect of an otherwise neutral technological system. Rather, they reflect what Easterling calls a ‘disposition’ baked into infrastructure.¹⁸ Setting this observation alongside Walters, Heller and Pezzani’s assertion that border infrastructures enforce a particular ‘viapolitics’ – simultaneously facilitating and hindering mobility within their zones of governance – we begin to see how connectivity is inextricably bound up with securitisation.¹⁹

11 A. Amin, ‘Lively infrastructure’, *Theory, Culture & Society* 31: 7–8, 2014, pp. 137–61; A. Barry, *Material politics: disputes along the pipeline* (Chichester: Wiley, 2013); Keller Easterling, *Extrastatecraft: the power of infrastructure space* (London: Verso, 2014); T. Mitchell, *Rule of experts: Egypt, techno-politics, modernity* (Berkeley, CA: University of California Press, 2002).

12 P. Harvey and H. Knox, *Roads: an anthropology of infrastructure and expertise* (Ithaca, NY: Cornell University Press, 2015); M. Reeves, *Border work: spatial lives of the state in rural Central Asia* (Ithaca, NY: Cornell University Press, 2014); Alessandro Rippa, *Borderland infrastructures: trade, development, and control in western China* (Amsterdam: Amsterdam University Press, 2020); Agnieszka Joniak-Lüthi, ‘A road, a disappearing river and fragile connectivity in Sino-Inner Asian borderlands’, *Political Geography* 78, 2020, art. 102122.

13 G. Murton, ‘Making mountain places into state spaces: infrastructure, consumption, and territorial practice in a Himalayan borderland’, *Annals of the American Association of Geographers* 107: 2, 2017, pp. 536–45; A. Rippa, G. Murton and M. Rest, ‘Building highland Asia in the twenty-first century’, *Verge: Studies in Global Asias* 6: 2, 2020, pp. 83–111.

14 See also Watts, *Frontiers and borders*.

15 On ‘infrastructural violence’ see T. M. Li, ‘After the land grab: infrastructural violence and the “mafia system” in Indonesia’s oil palm plantation zones’, *Geoforum* 96, 2018, pp. 328–37; D. Rodgers and B. O’Neill, ‘Infrastructural violence: introduction to the special issue’, *Ethnography* 13: 4, 2012, pp. 401–12; H. Appel, ‘Walls and white elephants: oil extraction, responsibility, and infrastructural violence in Equatorial Guinea’, *Ethnography* 13: 4, 2012, pp. 439–65.

16 See K. A. Thomas, ‘Enduring infrastructure’, in S. O’Lear, ed., *A research agenda for geographies of slow violence* (Cheltenham: Edward Elgar, 2021), pp. 107–22; Y. Kallianos, A. Dunlap and D. Dalakoglou, ‘Introducing infrastructural harm: rethinking moral entanglements, spatio-temporal dynamics, and resistance(s)’, *Globalizations* 20: 6, 2023, pp. 829–48.

17 See R. Jones, *Violent borders: refugees and the right to move* (New York: Verso, 2016); Dina Krichker, ‘They carry the border on their backs: atypical commerce and bodies’ policing in Barrio Chino, Melilla’, *Area* 52: 1, 2020, pp. 196–203.

18 Easterling, *Extrastatecraft*, p. 14.

19 W. Walters, C. Heller and L. Pezzani, eds, *Viapolitics: borders, migration, and the power of locomotion* (Durham, NC: Duke University Press, 2022); see also L. Pezzani, ‘Hostile environments’, *e-flux*, May 2020.

As this paper makes clear, border infrastructures are not simply tools used to express pre-existing state power. They are at the heart of what de Genova calls the ‘border regime’: the ensemble of practices, institutions and technologies through which borders are brought into being and border violence is organised.²⁰ Thinking in terms of the border as infrastructure reveals how this regime is materially embedded in roads, fences, markets and databases, which enact and distribute different forms of violence in border spaces.

20 De Genova, *A labor theory of borders*.

2. Connectivity and securitisation

The infrastructural landscape of the China–Pakistan borderlands has changed dramatically since I first crossed the Khunjerab Pass in 2013. In the years that followed, I took a close interest in the Chinese-led upgrading of the highway deep into Pakistani territory, as well as the development of new customs and immigration facilities on the Chinese side. I also studied other border-related infrastructural spaces being constructed at the time to foster trade, including logistics centres, warehouses and trade fair centres. The consequences of these investments were striking. On the one hand, overall trade volumes kept increasing. On the other, small-scale traders were largely pushed out of the niche market they had helped create in the 1980s, when the border first opened. This, I was repeatedly told by locals, was largely due to growing bureaucratic hurdles and competition from larger companies. According to local traders, doing business along the Karakoram Highway had simply become too expensive.²¹

The role of infrastructure is generally understood to be one of facilitating movement. As Larkin famously defined it, infrastructure is ‘matter that enable the movement of other matter’.²² It is perhaps unsurprising, therefore, that much of the literature on infrastructure has focused on projects explicitly designed to enhance flows, such as roads, railways and power grids.²³ This connectivity infrastructure is also central to how border spaces are accessed, traversed, managed and envisioned, prompting much of the social science literature on roads to focus on cross-border routes.²⁴ Scholars have paid particular attention to border roads as fundamental technologies by which the state manifests in borderlands – enhancing territorial control internally while projecting power outwards.²⁵

Transportation and connectivity infrastructure is central to the ‘paradigmatic shift’ noted by scholars over the past two decades, whereby the priorities underlying international sovereignty have switched ‘from securing territories to securing flows’.²⁶ Since the turn of the century, various economic, political and cultural processes have seen their territorial scope expand well beyond the nation-state, with their accompanying global mobilities (e.g. financial flows, logistics operations, labour market volatility) pushed to the forefront of policy debates and governance practices. Thus, far from borders being consigned to oblivion – as some early commentators on globalisation forecast in the 1980s – they have soaked progressively deeper into the fabric of society, structuring and regulating everyday lives. Importantly, these developments are profoundly uneven: although some kinds of mobility are facilitated, they sit alongside differentiated regimes of surveillance, exception, exclusion, injustice and violence designed

21 See Rippa, *Borderland infrastructures*.

22 Larkin, ‘The politics and poetics’, p. 329.

23 See, respectively, D. Dalakoglou and P. Harvey, ‘Roads and anthropology: ethnographic perspectives on space, time and (im)mobility’, *Mobilities* 7: 4, 2012, pp. 459–65; Laura Bear, *Lines of the nation: Indian railway workers, bureaucracy, and the intimate historical self* (New York, NY: Columbia University Press, 2007); S.J. Collier, *Post-Soviet social: neoliberalism, social modernity, biopolitics* (Princeton, NJ: Princeton University Press, 2011).

24 See Harvey and Knox, *Roads*; D. Dalakoglou, *The road: an ethnography of (im)mobility, space, and cross-border infrastructures in the Balkans* (Manchester: Manchester University Press, 2017).

25 See L. Heslop and G. Murton, eds., *Highways and hierarchies: ethnographies of mobility from the Himalaya to the Indian Ocean* (Amsterdam: Amsterdam University Press, 2021).

26 G. Popescu, ‘Topological imagination, digital determinism and the mobile border paradigm’, *Nordia Geographical Publications* 44: 4, 2015, pp. 49–55 at p. 50.

to ensure territorial integrity.²⁷ Borders are proliferating as a result, with bordering practices often taking place far from the boundary lines they are supposedly attached to.²⁸

A vivid illustration of this global tendency can be found in the borderlands of China, South Asia and Southeast Asia: regions often described as remote and disconnected, but now at the centre of some of the most ambitious infrastructure-led development projects in history.²⁹ Research on China's Belt and Road Initiative (BRI), for instance, shows how infrastructure investments designed to enhance flows via new 'corridors' have in fact generated numerous 'chokepoints'.³⁰ Murton's research, particularly in the context of Nepal and its borderland with China (Tibet), explores this apparent paradox in some detail: essentially, while enhanced road networks increase connectivity and physical mobility across the Himalayas, they also act as tools of containment, allowing the Nepalese and Chinese states to better monitor, regulate and control borderland spaces, resources and populations.³¹ Similarly, studies of the Northeast India border areas reveal that, rather than linking cross-border communities, promised infrastructure often creates selective 'development' and controlled commodity flows.³² According to some scholars, these cases exemplify how technology has expanded the state's reach and capacity, so reshaping the 'politics of access'.³³ Others, however, argue that by restructuring how people and goods move, new infrastructure often ends up undermining existing – at times, well-functioning – transnational economic, social and cultural ties. Instead of the promised economic growth, borderland peoples find their livelihoods eroded.³⁴

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- 27 Jones, *Violent borders*; J. Laine, 'Beyond borders: towards the ethics of unbounded inclusiveness', *Journal of Borderlands Studies* 36: 5, 2021, pp. 745–63; A. Mountz, *Seeking asylum: human smuggling and bureaucracy at the border* (Minneapolis, MN: University of Minnesota Press, 2010).
- 28 Mezzadra and Neilson, *Border as method*; S. Mezzadra and B. Neilson, *The politics of operations: excavating contemporary capitalism* (Durham, NC: Duke University Press, 2019); L. Amoore, 'Biometric borders: governing mobilities in the war on terror', *Political Geography* 25: 3, 2006, pp. 336–51; R. Jones and C. Johnson, eds., *Placing the border in everyday life* (Farnham: Ashgate, 2014); C. Johnson et al., 'Interventions on rethinking "the border" in border studies', *Political Geography* 30: 2, 2011, pp. 61–9.
- 29 The most visible is China's Belt and Road Initiative (BRI), which has allocated hundreds of billions of dollars to basic infrastructure, especially connectivity and energy networks. Other major programmes include India's Act East policy, the Asian Highway Network and the ASEAN Highway Network. Research on these borderlands has supplied crucial bottom-up perspectives that counter dominant macro-level narratives about the BRI and similar schemes. G. L. T. de Oliveira et al., 'China's belt and road initiative: views from the ground', *Political Geography* 82, 2020, art. 102225; M. Woodworth and A. Joniak-Lüthi, 'Exploring China's borderlands in an era of BRI-induced change', *Eurasian Geography and Economics* 61: 1, 2020, pp. 1–12.
- 30 G. Murton and T. Narins, 'Corridors, chokepoints and the contradictions of the Belt and Road Initiative', *Area Development and Policy* 9: 4, 2024, pp. 445–65; see also J. Dua, *Chokepoints and corridors ordering maritime space in the Western Indian Ocean* (Rift Valley Institute, 2021); A. Carse et al., 'Chokepoints: anthropologies of the constricted contemporary', *Ethnos* 88: 2, 2023, pp. 193–203; P. Schouten, *Roadblock politics: the origins of violence in Central Africa* (Cambridge: Cambridge University Press, 2022); P. Schouten, *Checkpoints, transnational trade and conflict*, DIIS working paper series Roadblocks and Revenues 10 (Danish Institute for International Studies, 2025).
- 31 G. Murton, 'Bordering spaces, practising borders: fences, roads and reorientations across a Nepal–China borderland', *South Asia: Journal of South Asian Studies* 40: 2, 2017, pp. 239–55; G. Murton, 'Nobody stops and stays anymore: new roads, uneven mobilities, and conceptualizing borderland modernity in highland Nepal', in A. Horstmann, M. Saxer and A. Rippa, eds, *Routledge handbook of Asian borderlands* (London: Routledge, 2018).
- 32 R. R. Ziipao, 'Roads, tribes, and identity in northeast India', *Asian Ethnicity* 21: 1, 2020, pp. 1–21; Roluahpuia, 'Whose border is it anyway? Control, contestation, and confluence in Indo-Myanmar borderlands', *Contemporary South Asia* 28: 1, 2020, pp. 74–85; J. Sarma, 'The edge of Kaladan: A "spectacular" road through "nowhere" on the India–Myanmar borderlands', in L. Heslop and G. Murton, eds, *Highways and hierarchies: ethnographies of mobility from the Himalaya to the Indian Ocean* (Amsterdam: Amsterdam University Press, 2021), pp. 125–54.
- 33 S. Gohain, 'Selective access: or, how states make remoteness', *Social Anthropology* 27: 2, 2019, pp. 204–20 at p. 206.
- 34 H. Alff, 'Flowing goods, hardening borders? China's commercial expansion into Kyrgyzstan re-examined', *Eurasian Geography and Economics* 57: 3, 2016, pp. 433–56; Rippa, *Borderland infrastructures*.



Image 2. A new checkpoint along the Karakoram Highway (photo by Alessandro Rippa, 2017).

A common theme emerges from these various studies: despite being marketed as a means of modernising ‘remote’ or underdeveloped regions, infrastructure projects predominantly increase legibility – that is, the ability of states, militaries and dominant groups to map, monitor and control territory.³⁵ Rather than simply ‘opening up’ border areas, then, new connectivity projects impose selective mobility regimes with uneven consequences. Even when, as in the case of the Karakoram Highway, new infrastructure enhances overall trade volumes, such figures often hide a more complex reality in which pre-existing ties are disrupted.

These dynamics point to the tension between connectivity and securitisation, which is intrinsic to borderlands and intensified by certain types of infrastructure development. Here, the technopolitics of infrastructure referred to earlier becomes clear: it is the material forms of new infrastructure that shape mobility and circulation, legitimising some forms of exchange while systematically marginalising others. In this way, politics is conducted by infrastructural means, with infrastructural violence enacted via the everyday reorganisation of who can move, under what conditions, and at what cost.

³⁵ See also Anderson, Brinham and Kyaw, *Citizenship unsettled*.

3. Contestation and militarisation

Carse notes that, as a term, infrastructure's wider popularity outside the engineering world began in the wake of the Second World War, when NATO launched its 'Common Infrastructure Programme'.³⁶ At the time, the term referred to the fixed structures (e.g. roads, bridges, airfields) necessary for the deployment of modern armed forces when developing military facilities. In subsequent years, understandings of the term continued to be bound up with the transnational nature of infrastructure: how its funding and deployment is often the result of collaborations between nation-states, private developers and international donors. Although infrastructure has become ever more associated with national-level and even private development, the modern technological systems referred to in this paper remain highly transnational endeavours. For instance, China's BRI features multinational collaborations and hinges on international donor involvement.³⁷ Moreover, large-scale infrastructures are fundamentally shaped by translocal and transnational technical standards and management practices.³⁸

The transnational nature of infrastructure projects means they frequently become magnets for protest and resistance, providing sites around which communities can cohere and where alternative visions of development emerge. This is especially true of export-oriented energy infrastructures, which cast stark light on the extractive nature of global economic flows and the tendency to bypass local interests. Pipelines, for instance, have emerged as privileged sites of both diplomacy and sabotage in contexts as diverse as Sudan, the US–Canada border and Ukraine.³⁹ Hydropower projects, meanwhile, often run into community-led resistance and resource ownership disputes.⁴⁰

The Myitsone Dam in Myanmar's Kachin State offers a particularly high-profile case of successful resistance to a large-scale transnational energy project. The US\$3.6 billion, 6,000-megawatt hydropower project on the Irrawaddy River – which was intended to export 90 per cent of its power to China – faced intense local opposition due to the environmental destruction, mass displacement and loss of sacred Kachin cultural sites involved. In 2011, the project was suspended by the then quasi-civilian government of Thein Sein. As Kiik's fine-grained ethnographic research shows, this came as the result of local Kachin activism, coupled with the inability of Chinese actors to comprehend or confront the local ethno-nationalist milieu.⁴¹

36 A. Carse, 'Keyword: infrastructure: how a humble French engineering term shaped the modern world', in P. Harvey, C. B. Jensen and A. Morita, eds, *Infrastructure and social complexity: a companion* (London: Routledge, 2017), pp. 27–39.

37 A. Joniak-Lüthi and A. Rippa, eds, *Demystifying the Belt and Road Initiative* (Department of Social Sciences, University of Freiberg; Rachel Carson Center, LMU Munich; Center for Asian Studies, University of Colorado, 2022).

38 A. Carse and J. A. Lewis, 'Toward a political ecology of infrastructure standards: or, how to think about ships, waterways, sediment, and communities together', *Environment and Planning A: Economy and Space* 49: 1, 2016, pp. 9–28.

39 F. Proedrou, 'Revisiting pipeline politics and diplomacy: from energy security to domestic politics explanations', *Problems of Post-Communism* 65: 6, 2017, pp. 409–18; Barry, *Material politics*; P. Le Billon and E. Savage, 'Binding pipelines? Oil, armed conflicts, and economic rationales for peace in the two Sudans', *African Geographical Review* 35: 2, 2016, pp. 134–50; K. Bosworth, *Pipeline populism: grassroots environmentalism in the twenty-first century* (Minneapolis, MN: University of Minnesota Press, 2022); R. E. Newnham, 'Pipeline politics: Russian energy sanctions and the 2010 Ukrainian elections', *Journal of Eurasian Studies* 4: 2, 2013, pp. 115–22.

40 M. Rest, 'Generating power: debates on development around the Nepalese Arun-3 hydropower project', *Contemporary South Asia* 20: 1, 2012, pp. 105–17; L. Kiik, 'Nationalism and anti-ethno-politics: why "Chinese Development" failed at Myanmar's Myitsone Dam', *Eurasian Geography and Economics* 57: 3, 2016, pp. 374–402.

41 See Kiik, 'Nationalism and anti-ethno-politics'; L. Kiik, 'Intra-national conspiracy? Speculating on the Myitsone Dam controversy in China, Burma, Kachin, and a displaced village', *Geopolitics* 28: 1, 2020, pp. 72–98.



Image 3. Rawang traders walking towards the Chinese border in the Dulong Valley (photo by Alessandro Rippa, 2016).

One notable aspect of examples like these is how the materiality of infrastructure shapes both the channelling of power and resistance to it. Energy infrastructures become prominent sites of protest precisely because they are conspicuous presences in the landscape. Thus, while infrastructures may be conduits for ‘slow violence’, they can also provoke what Fung and Lamb term ‘slow resistance’.⁴² Using a transnational hydropower project on the Salween River between Thailand and Myanmar as their reference point, Fung and Lamb trace the ‘promise’ of infrastructure-led development in the form of dams and diversions back to 1979.⁴³ In doing so, they show how local resistance to such projects has spanned – indeed, defined – generations. This resistance is strategic, ‘under the radar’ and, akin to the ‘slow violence’ described by Nixon, ‘incremental and accretive’.⁴⁴ Ultimately, it aims to re-make the very conditions that define how development projects are proposed.

A different, yet related, set of dynamics emerges from the *infrastructuring* of borders themselves. In 2015 and 2016, I spent a few months in the Dulong Valley in China’s Yunnan province, bordering the northernmost tip of Myanmar’s Kachin State to the west and the Tibet Autonomous Region to the north – a valley developing along one of the two rivers that converge into the Irrawaddy at the site of the proposed Myitsone Dam. At that time, there was no permanent border infrastructure sited at the valley’s

42 Z. Fung and V. Lamb, ‘Dams, diversions, and development: slow resistance and authoritarian rule in the Salween river basin’, *Antipode* 55: 6, 2023, pp. 1662–85.

43 Nikhil Anand, Akhil Gupta and Hannah Appel, eds, *The promise of infrastructure* (Durham, NC: Duke University Press, 2018).

44 R. Nixon, *Slow violence and the environmentalism of the poor* (Cambridge, MA: Harvard University Press, 2011), p. 2.

southernmost village, and local men and women often walked alongside the Dulong (or N'Mai) River into Kachin State to visit relatives, collect medicinal plants and sell goods. Their Rawang peers and kin across the border were engaged in similar activities, and some children born in Myanmar even attended local schools in Yunnan – a practice that, at the time, was not seen as particularly exceptional.

Things changed radically from 2017 onwards, when China's People's Liberation Army established a permanent checkpoint on the only road connecting the village to the rest of the country, along with another post close to the boundary line where the trail into Kachin State ran. Local residents now needed special permits to cross the border, while people arriving from other parts of China could only remain in the village for a brief period of time: they were prohibited from approaching the boundary, let alone crossing it. At the same time, the local authorities built a 'border market' in the village, where businesses – most of them owned by non-local people from outside the Dulong Valley – could sell 'traditional' products to tourists. Before long, the village was dotted with security cameras, providing visible evidence of the connectivity–securitisation relationship discussed throughout this paper. The incremental infrastructuring of the border via checkpoints, markets and surveillance not only reconfigured patterns of movement, but attached a racialised politics of visibility and suspicion to local Dulong and Rawang bodies.

The above cases demonstrate the various ways in which infrastructure – its planning, construction and management – operates as a critical actor in landscapes of territorial conflict and resilience. While hydropower projects such as the Myitsone Dam or cross-border checkpoints like those seen in the Dulong Valley are not necessarily generative of conflict in themselves, they nevertheless reshape existing claims, catalysing both state-led militarisation and local resistance. When attempting to address political violence in border contexts, it is therefore imperative that we pay attention to the materiality and wider societal impact of infrastructure. Applying a border as infrastructure perspective shows us that infrastructures constructed at the border do not merely host conflict – they actively organise and distribute violence.

4. Surveillance and racial capitalism

It is not just the new road and logistics centres that have changed the nature of trade along the Karakoram Highway between China and Pakistan. From at least 2013 onwards, I witnessed first-hand the growing securitisation taking place in the region. Driven by the Chinese government's concerns about separatist movements, this securitisation process quickly assumed an explicitly infrastructural form: permanent checkpoints equipped with state-of-the-art biometric technology; newly constructed fences and patrolling roads; police stations installed in towns and settlements along the highway. It soon became clear that these infrastructures and technologies were far from neutral. At checkpoints, members of different ethnic groups went through different surveillance systems, with Uyghur Muslim bodies subject to far greater scrutiny than those of Han Chinese migrants and travellers. By 2016, it had become virtually impossible for Uyghurs to obtain passports, let alone travel abroad – for them, the prospect of trading opportunities was all but gone.

Much of the recent literature on borders, borderlands and bordering regimes has focused on the surveillance technologies deployed in these contested spaces. Developments in biometric technologies in particular have prompted scholars to argue that borders are becoming ever more embodied, their capaciousness displaced from national boundaries into the sphere of the everyday.⁴⁵ This relates in part to what Zuboff calls 'surveillance capitalism': the extractive political economy of turning human behaviour into data to be tracked, analysed and monetised.⁴⁶ In border contexts such as the Karakoram Highway, the systematic capture and monetisation of human experience has been enacted in explicitly racialised ways, with biometric technologies used for both data-gathering and surveillance, facilitating the movement of some while impeding that of others.⁴⁷

One key consequence of these developments is the aforementioned 'proliferation' of borders, which has seen migration databases and continuous surveillance become an integral part of border management practices.⁴⁸ Here, the border is simultaneously physical and virtual, giving rise to a biometric logic of sovereignty.⁴⁹ A second, related consequence is the visible 'hardening' or 'rematerialisation' of border spaces, most notably as part of the increasingly digitalised nature of border crossings and border surveillance.⁵⁰ Recent years have seen a rapid – and to many observers, somewhat puzzling – expansion of border fences and surveillance systems, with the US–Mexico, China–Myanmar and Israel–Egypt boundaries offering examples in this regard.⁵¹ Across those sites, the promise embedded in technological

45 Amoores, 'Biometric borders'; G. Popescu, 'Hiding in plain sight: the power of biometric border technologies', in A.C. Diener and J. Hagen, eds., *Invisible borders in a bordered world: power, mobility, and belonging* (London: Routledge, 2022), pp. 253–64.

46 S. Zuboff, *The age of surveillance capitalism: the fight for a human future at the new frontier of power* (London: Profile Books, 2019).

47 S. Browne, *Dark matters: on the surveillance of Blackness* (Durham, NC: Duke University Press, 2015).

48 Mezzadra and Neilson, *Border as method*; see also D. Broeders, 'The new digital borders of Europe: EU databases and the surveillance of irregular migrants', *International Sociology* 22: 1, 2007, pp. 71–92; S. Scheel, *Autonomy of migration? Appropriating mobility within biometric border regimes* (London: Routledge, 2019).

49 B. J. Muller, *Security, risk and the biometric state: governing borders and bodies* (London: Routledge, 2010); K. Breckenridge, *Biometric state: the global politics of identification and surveillance in South Africa, 1850 to the present* (Cambridge, UK: Cambridge University Press, 2014).

50 N. Megoran and Z. Enikeeva, 'What happens when borders reopen? Dematerialising the Uzbekistan–Kyrgyzstan boundary', *Geopolitics*, publ. online 24 Oct. 2025.

51 See R. Jones et al., 'Interventions on the state of sovereignty at the border', *Political Geography* 59, 2017, pp. 1–10.

development – that biometric technologies help state authorities contain, curb and track ‘illegal’ crossings – is crucial.

More broadly, these developments point to how mobility is being mediated to an ever greater degree by technological infrastructures. From a migration studies perspective, Xiang and Lindquist argue that ‘migration can be more clearly conceptualised through a focus on infrastructure rather than on state policies, the labour market, or migrant social networks alone’.⁵² Hence, they call for a shift in focus away from migrants’ behaviour towards the technologies, institutions and actors that ‘mediate’ mobility. Of particular importance for the purposes of this paper is the fact that this mediation assumes an explicitly infrastructural form, relying as it does on the deployment of technologies infused with their own objectives and politics. This, again, harks back to the technopolitics discussed previously.

The externalisation of borders and border control is also part of this recent shift, as exemplified by the extension of EU borders into North Africa. Andersson, in his work on Spain and West Africa, shows that migration control at external EU borders has become an industry driven by an unwavering belief in the power of technology.⁵³ Examples include the ‘Seahorse’ network, which features a satellite system connecting African and European forces; advanced border fencing in the North African enclaves of Ceuta and Melilla; and perhaps most notably the ‘European external border surveillance system’ – a ‘decentralised’ information-sharing platform that brings together EU-wide actors. Despite promising efficiency and the smoothing-over of conflicts, such technologies catalyse new social relations among disparate sectors, generating both collaboration and conflict. In doing so, they stoke a growing industry reliant on the ongoing-ness of crises.⁵⁴ An infrastructural logic – or what Andersson calls an ‘ecological’ perspective – thereby emerges, with the materialities of border control (re)productive of social and political relations, rather than simply their consequences.

The connection between border management and surveillance capitalism is at the core of Byler’s work in the Xinjiang Uyghur Autonomous Region, where a high-tech surveillance system has been developed over the past decade to accompany the mass imprisonment of hundreds of thousands of Muslim subjects.⁵⁵ While security infrastructure developments – encompassing checkpoints, biometric data collection and facial recognition algorithms – have to some degree been driven by China’s security priorities and ethnic policies, they are nevertheless tightly interwoven with ‘a global turn toward technopolitical systems of capitalist accumulation’.⁵⁶ Employing a technopolitical lens, Byler shows how politically motivated state repression feeds the surveillance industry with data that is then used to improve its technologies and expand market share. This expands the capaciousness, applicability and perceived need of such technologies, thus reinforcing a particular cycle of racial capitalism: the profit-driven exploitation of racially defined populations through infrastructural means.⁵⁷

52 B. Xiang and J. Lindquist, ‘Migration infrastructure’, *International Migration Review* 48: 1 (supplement), 2018, pp. 122–48 at p. 122.

53 R. Andersson, ‘Hardwiring the frontier? The politics of security technology in Europe’s “fight against illegal migration”’, *Security Dialogue* 47: 1, 2016, pp. 22–39.

54 See also Walters, Heller and Pezzani, *Viapolitics*.

55 D. Byler, ‘Chinese infrastructures of population management on the New Silk Road’, in A.M. Denmark and L. Myers, eds, *Essays on the rise of China and its implications* (Washington, DC: Woodrow Wilson International Center for Scholars, 2021), pp. 7–34; D. Byler, *In the camps: China’s high-tech penal colony* (New York, NY: Columbia Global Reports, 2021).

56 D. Byler, ‘The social life of terror capitalism technologies in Northwest China’, *Public Culture* 34: 2, 2022, pp. 167–93 at p. 169; see also D. Byler, *Terror capitalism: Uyghur dispossession and masculinity in a Chinese city* (Durham, NC: Duke University Press, 2022).

57 C. Robinson, *Black Marxism: the making of the black radical tradition* (London: Zed Books, 1983).

Scholars of racialisation and bordering regimes have long argued that, far from being neutral, infrastructures of surveillance and control actively produce hierarchies of life and death along racial lines.⁵⁸ Addressing this point, Manchanda observes that ‘borders are infrastructures of sorting and codification that allocate mobility, exposure and value’.⁵⁹ Byler’s work demonstrates how digital and built infrastructures – from checkpoints and databases to cameras and camps – enact this differentiation in Xinjiang, hyper-exposing Uyghur and other Muslim populations to securitised scrutiny, while rendering Han Chinese mobilities ever more frictionless. In this way, the border as infrastructure operates as a racial technology.

As all of the above implies, infrastructure and its development are highly consequential when it comes to political violence in border areas and associated policy-making. In the words of Oakes, such examples are indicative of ‘the capacity of infrastructures to shape and even penetrate social, economic, political, cultural, and/or institutional formations’.⁶⁰ Importantly, this form of power emerges *within* the infrastructural configurations themselves. As such, it should not be reduced to pre-existing state power channelled through infrastructures.⁶¹ Cast in this light, patterns of mobility and circulation are not merely the outcome of state policy, but generated via infrastructural power. To understand them, one must foreground the very politics – and racialised technopolitics – of infrastructure itself.

58 R. W. Gilmore, *Golden gulag: prisons, surplus, crisis, and opposition in globalizing California* (Berkeley, CA: University of California Press, 2007); G. Bhattacharyya, *Rethinking racial capitalism: questions of reproduction and survival* (London: Rowman & Littlefield, 2018); N. Manchanda and S. Plonski, ‘Between mobile corridors and immobilizing borders: race, fixity and friction in Palestine/Israel’, *International Affairs* 98: 1, 2022, pp. 183–207.

59 Manchanda, *The spatial lives of racial capitalism*.

60 Oakes, ‘Global China’, p. 86.

61 See also Oakes, ‘Infrastructure power’.

Conclusion

In 2016, acquaintances in China's Yunnan province showed me some disturbing images circulating on local WeChat channels and groups. What was especially striking about the images – which showed ongoing fighting in the Kokang region of Shan State, where Myanmar's civil war had recently reignited – was the fact that they had been captured by individuals standing in relative safety on the Chinese side of the border, separated from the violence by little more than the thin stream marking the boundary. Civil war has wreaked havoc in Myanmar for decades, but this time it had crept so close to the border that observers on the Chinese side could film it on their smartphones and upload the videos to social media. To me, these images felt uncanny, the boundary functioning as a 'fourth wall' dividing actors from audience.⁶²

A decade on, the war in Myanmar continues to rage – if anything, taking an even more widespread, tragic turn since the 2021 military coup. Meanwhile, although the boundary with China has maintained its formal location, its infrastructural form is transformed. Following the heightened securitisation that accompanied the Covid-19 pandemic, a tall fence has been erected along the border, equipped with cameras and facial-recognition technologies developed – at least in part – in the Xinjiang Uyghur Autonomous Region at the opposite end of the country. Now, so interlocutors and friends in Yunnan tell me, a border that used to be eminently porous has become highly managed, requiring new skills and networks to cross.

The infrastructuring of the China–Myanmar border in conjunction with the development of surveillance technology is but one example of how, over recent decades, border spaces have received increased attention and investment by state authorities. The expansion of biometric surveillance has displaced and multiplied borders across the world. Even so, border spaces remain bound up with how states control mobility and how citizens navigate their everyday lives. In particular, they draw our attention to the fact that political violence is continuously shaped by changing infrastructural landscapes. Throughout, I have distinguished between border infrastructures – the descriptive materiality of roads, fences, checkpoints and surveillance systems – and the border as infrastructure: the wider socio-technical configuration through which these elements combine to produce specific regimes of mobility, value and violence.

The argument advanced by this paper can be summarised as follows. First, border infrastructures are central to a contemporary technopolitical regime in which connectivity and securitisation are mutually constitutive: roads, corridors and digital networks introduced to enhance flows also lead to new chokepoints, surveillance capabilities and exclusionary practices. Second, these infrastructural arrangements enact forms of violence that are often slow, dispersed and racialised, exposing certain populations to heightened risk and reduced mobility while shielding and enabling others. Third, infrastructural agency – what Oakes calls 'infrastructure power' – means that, once built, these systems shape political violence and conflict trajectories in ways that outstrip the intentions of planners or states.⁶³

The significance of these dynamics becomes clearer once we situate them in a wider global landscape. Around the world, resource and energy infrastructures – from pipelines and transmission lines to ports and transport corridors – have become catalysts for conflict and primary targets of violence. The ongoing wars in Ukraine and the Middle East underscore how energy infrastructure, shipping lanes and trade

62 For some images and thoughtful reflections on those events, see J. Sarma, 'Seeing like a border: resource frontiers, voices and visions on Myanmar's borderlands with India and China', unpublished PhD thesis, National University of Singapore, 2020.

63 Oakes, 'Infrastructure power'; Oakes, 'Global China'.

corridors are central to both military strategy and everyday insecurity. In Myanmar's borderlands, we can see that cross-border pipelines, hydropower projects, agribusiness concessions and special economic zones linking the country to China and regional markets have become sites where conflict actors, states and corporations negotiate access, protection and profit.⁶⁴

Local communities often bear the brunt of displacement, militarisation and environmental degradation, even as these infrastructures are presented as neutral vehicles of 'development' and connectivity.⁶⁵ Border infrastructures are not merely the backdrop to this violence – they structure its geography and intensity by introducing chokepoints and safe havens; providing fresh opportunities for taxation and predation; and generating new forms of exclusion. In this sense, the cases discussed in the paper are indicative of a broader pattern in which the border as infrastructure now lies at the heart of how conflict is organised in the contemporary world.

Recognising the border as infrastructure has real-life implications for policy and intervention. First, rather than relying solely on legal reform or conventional diplomacy, efforts aimed at reducing border-related violence must also engage with the material layout and technopolitics of border infrastructures themselves. Taking infrastructural agency seriously means recognising that 'more connectivity' is not necessarily benign – as this paper has shown, spectacular promises of connectivity often conceal more mundane processes of legibility, displacement and exclusion. Second, a border as infrastructure perspective shines a light on the material and technological architectures produced by connectivity and securitisation, revealing how they shape contemporary conflicts. This in turn gives us the means to reconfigure these architectures in ways that diminish – rather than reproduce – the violence characteristic of increasingly infrastructured borders.

64 K. Dean, J. Sarma and A. Rippa, 'Infrastructures and b/ordering: how Chinese projects are ordering China–Myanmar border spaces', *Territory, Politics, Governance* 12: 8, 2024, pp. 1177–98; J. Sarma, A. Rippa and K. Dean, '"We don't eat those bananas": Chinese plantation expansions and bordering in Northern Myanmar's Kachin borderlands', *Eurasian Geography and Economics* 64: 7–8, 2023, pp. 842–68.

65 Kiik, 'Nationalism and anti-ethno-politics'; Dan Seng Lawn, *Conflict and development in the Myanmar–China border region* (XCEPT, March 2022); Dan Seng Lawn, *Myanmar's northern borderlands: a history of Myanmar–China relations and the implications for future conflict* (XCEPT, March 2025); Athena Awn Naw, 'Militarized pipelines: how China's security priorities harm local communities', *The Irrawaddy*, 11 Sept. 2025.

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