

ARTICLE

Roads and Rules: What Does Infrastructure Reveal about International Law?

Emma PALMER 

Griffith Law School, Griffith University, Brisbane, Queensland, Australia
Email: emma.palmer@griffith.edu.au

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Abstract

Infrastructure has been the focus of geopolitically significant regional strategies, including the Belt and Road Initiative and the Asian Highway. Mega-infrastructure projects are thought to offer crucial stimulus to support economic recovery and “infrastructure diplomacy” efforts. Transportation projects, like roads, are material objects that offer complex questions for international law, most obviously when projects or their impacts cross borders. They are long-term and long-distance, with varying impacts upon closer and further populations and environments across the construction and life of the asset. This article draws on insights from new materialism to analyse what infrastructure’s entanglements might suggest about international law. The relationship between international law and transportation infrastructure is contingent. However, there is a pattern to this contingency that foregrounds funding “gaps”, investment protections, and risk assessments, which minimizes intersecting impacts and human/non-human relationships.

Keywords: infrastructure; new materialism; investment; human rights; environment

A great highway network, often following the caravan routes of antiquity, will soon span the continent of Asia from Turkey and Iraq to Singapore and Saigon. Known as the Great Asian Highway ... When completed, it will offer the motorist an opportunity for [a] new contact with the people of Asia by driving across 35,000 miles (55,000 km) of international roads.¹

Roads direct the movement of goods and people, as well as ideas, finance, and influence.² Unsurprisingly, transportation infrastructure,³ including roads, is the focus of

¹ M.S. AHMAD, “The Great Asian Highway” (1965) The UNESCO Courier 12.

² Brian LARKIN, “The Politics and Poetics of Infrastructure” (2013) 42 Annual Review of Anthropology 327.

³ “Infrastructure” in this article is understood as “technologically mediated, dynamic forms that continuously produce and transform sociotechnical relations ... infrastructures are extended material assemblages that generate effects and structure social relations, either through engineered (i.e. planned and purposefully crafted) or non-engineered (i.e. unplanned and emergent) activities”, see Penny HARVEY, Casper B. JENSEN, and Atsuro MORITA, “Introduction: Infrastructural Complications”, in Harvey *et al.*, eds., *Infrastructures and Social Complexity: A Companion* (New York: Routledge, 2017), at 5; see also Ashley CARSE, “Keyword: infrastructure: How a humble French engineering term shaped the modern world” in Harvey *et al.*, eds., *Infrastructures and Social Complexity: A Companion* (New York: Routledge, 2017), at 27; Larkin, *ibid.*; For a broader conception of

geopolitically significant multi-trillion dollar regional strategies,⁴ including the Belt and Road Initiative (BRI),⁵ India's "Act East Strategy",⁶ the Master Plan on ASEAN Connectivity⁷ (including via the Asian Development Bank (ADB) and the ASEAN states' ASEAN Infrastructure Fund),⁸ the US, Japan, and Australia Trilateral Infrastructure Partnership,⁹ as well as COVID-19 relief and vaccine distribution plans.¹⁰ Yet, due to their significant use of land, resources, and labour, their ability to redirect people and goods, and their long-lasting nature, mega-infrastructure¹¹ projects have significant effects.¹² These can include attacks by public and private security forces upon Indigenous and "climate" defenders,¹³ land dispossession,¹⁴ intersecting violations of Indigenous land use and environmental rights,¹⁵ and impacts upon the climate and ecosystems.¹⁶ The Office of the High

infrastructure than adopted here, see Benedict KINGSBURY, "Infrastructure and InfraReg: On Rousing the International Law 'Wizards of Is'" 8 *Cambridge International Law Journal* 171 at 184: "International law can itself be thought about as infrastructure".

⁴ Likely USD trillions, though see Julia ROZENBERG and Marianne FAY, *Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet. Sustainable Infrastructure* (Washington, D.C.: World Bank Group, 2019), online: World Bank openknowledge.worldbank.org/handle/10986/31291; World Bank Group, "Infrastructure in Asia and the Pacific: Road Transport, Electricity, and Water & Sanitation Services in East Asia, South Asia & the Pacific Islands" (2020), online: World Bank Group documents1.worldbank.org/curated/en/742271595404096928/pdf/Road-Transport-Electricity-and-Water-and-Sanitation-Services-in-East-Asia-South-Asia-and-the-Pacific-Islands.pdf; Asian Development Bank (ADB), "Meeting Asia's Infrastructure Needs" (2017), online: ADB www.adb.org/publications/asia-infrastructure-needs.

⁵ See Yun ZHAO, ed., *International Governance and the Rule of Law in China under the Belt and Road Initiative* (Cambridge: Cambridge University Press, 2018).

⁶ Dipanjan Roy CHAUDHURY, "Myanmar to expedite India-backed infra projects", *Economic Times* (9 July 2020).

⁷ ASEAN, "Master Plan on ASEAN Connectivity" (2016), online: ASEAN <https://asean.org/wp-content/uploads/2018/01/47.-December-2017-MPAC2025-2nd-Reprint-.pdf>.

⁸ ADB, "ASEAN Infrastructure Fund", online: ADB <https://www.adb.org/what-we-do/funds/asean-infrastructure-fund>.

⁹ Australian Government Department of Foreign Affairs and Trade, "US, Japan, Australia Reaffirm Commitment to Indo-Pacific Infrastructure Development" (25 June 2019), online: DFAT <https://www.dfat.gov.au/news/media/Pages/us-japan-australia-reaffirm-commitment-to-indo-pacific-infrastructure-development>.

¹⁰ Steven BECK, "Asia's fabled supply chains to be tested by COVID-19 vaccine delivery", *Asian Development Blog* (14 December 2020), online: ADB blogs.adb.org/blog/asia-s-fabled-supply-chains-be-tested-covid-19-vaccine-delivery.

¹¹ "Mega" infrastructure projects are valued in the billions of USD.

¹² Michael LIKOSKY, *Privatising Development: Transnational Law, Infrastructure and Human Rights* (Leiden: Brill, 2005); Michael LIKOSKY, *Law, Infrastructure and Human Rights* (Cambridge: Cambridge University Press, 2006); Zeid Ra'ad AL HUSSEIN, "Human rights trampled in push to build infrastructure" (8 March 2017), online: OHCHR, <https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=21322&LangID=E>. Office of the High Commissioner for Human Rights (OHCHR), "The Other Infrastructure Gap: Sustainability Human Rights and Environmental Perspectives" (2019), online: OHCHR <https://www.ohchr.org/sites/default/files/Documents/Publications/InfrastructureGapSummary.pdf>.

¹³ Coalition for Human Rights in Development, "Uncalculated Risks: Threats and Attacks against Human Rights Defenders and the Role of Development Financiers" (2019), online: Rights in Development <https://rightsinddevelopment.org/our-work/uncalculatedrisks/>; e.g. *Report of the Special Rapporteur on the situation of human rights defenders on his mission to Mexico*, UN Doc. A/HRC/37/51/Add.2 (2018), para. 61.

¹⁴ *20 Years Special Rapporteur on the right to adequate housing: Taking stock – moving forward, Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context*, UN Doc. A/HRC/47/43 (2021), para. 74; despite a proliferation of related "non-global" guidelines, see *infra* note 148.

¹⁵ Ricardo PEREIRA, "Public participation, indigenous peoples' land rights and major infrastructure projects in the Amazon: The case for a human rights assessment framework" (2021) 30 *Review of European, Comparative & International Environmental Law* 184, which discusses the example of *Yanomami v. Brazil*, OEA/Ser.L/VII.66 doc.10 rev. 1, 5 March 1985, involving a highway.

¹⁶ See Gopalasamy Reuben CLEMENTS, "The Environmental and Social Impacts of Roads in Southeast Asia" (2013) PhD thesis, James Cook University.

Commission for Human Rights reports that although “physical impacts of this kind typically peak during construction and level off during operation, health, safety and security problems can persist for workers and communities, along with threats to biodiversity, natural resources and the climate”.¹⁷

What we call “roads”, like other forms of infrastructure, form long-term and often long-distance material networks with varying impacts on closer and further populations and “environments”.¹⁸ Moreover, viewed as widespread, expensive, long-term¹⁹ dynamic conduits for goods, services, ideas, and impacts, roads represent “crucial spaces of flow for network society” so that “it can be argued that highways have become one of the most paradigmatic material infrastructures of the current sociocultural condition”.²⁰

Mega-infrastructure transport networks, including the Belt and Road Initiative (BRI) and the Asian Highway,²¹ typically involve complex project financing and structures. For infrastructure lawyers, the diversity and changing nature of road sites encourage the application of localized project structures (to manage political and taxation risks, for example) alongside the “top-down” replication of international templates, precedents, and guidelines.²² The relevance and application of international law could reasonably seem unclear to many infrastructure practitioners and policymakers more focused on navigating overlapping domestic labour, tax, or environmental law obligations.²³ Likewise, for many international lawyers, though increasingly not all,²⁴ infrastructure objects like roads, towers, undersea cables, canals, or power plants are front-of-mind only when their governance or impacts present possible cases (problems) or *subjects* for the application of international law, and are less frequently thought of as directing or shaping international law itself.

This article develops this discussion in relation to “roads”, considered as entangled in networked contexts, so that while we might identify road “edges”, these are porous and

¹⁷ OHCHR, *supra* note 12 at 13.

¹⁸ “Populations” and “peoples”, as well as “environments” in this article do not represent discrete or fixed categories that can be isolated but interrelated, dynamic phenomena: see section 1.

¹⁹ Although full discussion is beyond the scope of this article, this arguably “brews” time “in complex relationships between human and nonhuman actors” if one considers how these interactions, involving infrastructure, do not just “carry or evoke temporal meanings” such as distance, duration, and speed, but through their actions, “temporalities are brewed” See Grabham, *infra* note 33, at 13, 172; on the infrastructure of time see Geoff GORDON, “Engaging an infrastructure of time production with international law” (2022) 9 *London Review of International Law* 319.

²⁰ Dimitris DALAKOGLU, *Roads and Anthropology: Ethnography, Infrastructures, (Im)mobility* (New York: Routledge, 2015) at 4.

²¹ The road network, not the multimedia platform (“Where Stories are Told”).

²² Larkin, *supra* note 2 at 333; Mariana VALVERDE, *Infrastructure: New Trajectories in Law* (New York: Routledge, 2022).

²³ Tools to assist practitioners and policymakers, such as the World Bank PPP Knowledge Lab, the Public-Private Infrastructure Advisory Facility, or the G20’s Global Infrastructure Hub, are not explicitly focused upon international law but address sustainable development and related considerations; for example, the “Inclusive Infrastructure Tool”, <https://inclusiveinfra.github.org/>; see also the GiZ “Sustainable Infrastructure Tool” available at <https://sustainable-infrastructure-tools.org/>.

²⁴ See Benedict KINGSBURY, “Introduction to the Symposium on Infrastructuring International Law” (2023) 117 *AJIL Unbound* 1; addressing railroads, Deborah COWEN, “Law as Infrastructure of Colonial Space: Sketches from Turtle Island” (2023) 117 *AJIL Unbound* 5; Kingsbury, *supra* note 3; Jessie HOHMANN, “Diffuse subjects and dispersed power: New Materialist Insights and Cautionary Lessons for International Law” (2021) *Leiden Journal of International Law* 1; Daniel R. QUIROGA-VILLAMARÍN, “Domains of Objects, Rituals of truth: Mapping Intersections between International Legal History and the New Materialisms” (2020) *International Politics Reviews* 129; Daniel R. QUIROGA-VILLAMARÍN, “Normalising Global Commerce: Containerisation, Materiality, and Transnational Regulation” (2020) 8 *London Review of International Law* 457, and, focused on objects of various kinds, contributions in Jessie HOHMANN and Daniel JOYCE, eds., *International Law’s Objects* (Oxford: Oxford University Press, 2018).

dynamic. It recognizes that infrastructure's physical materiality and interactions render it not just a background or subject for the application of international law.²⁵ Focusing on the BRI and the Asian Highway, I extend scholarship suggesting that, despite the indeterminacy of international law's relationships with infrastructure, entanglements between governments, financiers, constructors, and operators can cause "patterned and predictable harms" through their intersections with environments and peoples.²⁶ I claim that the materiality of roadways and their disrepair or non-construction are interconnected with societies and environments. But I also show how indeterminacy and an understanding of highways as contingent "networks" also support the application of fragmented, non-binding, and risk-mitigation focused legal frameworks that diffuse accountability for material construction, maintenance, and road-linked harms. Further, foregrounding roads suggests a weak role for international law in an area attracting significant political and financial capital. The power of "the road network" subsumes both alternative material structures and protective international law frameworks. Finally, I identify challenges in drawing upon a new materialist perspective to analyse "roads" – including to account for the non-material roads-not-built, and to explain how hierarchical, power-laden roadway interactions might be normatively changed.

Section I reviews the insights that new materialist approaches offer for international law, including foregrounding assemblages such as infrastructure while identifying some limitations involved in advancing the contingent nature of relationships between law, objects, people, and nature. Section II considers what, in particular, the BRI and the Asian Highway networks reveal about several areas of international law – treaties concerning cross-border projects, international investment treaties, international environmental law, and human rights law. Section III analyses how different project structures and funding "gaps" intersect with the disjointed role of international law in "regulating"²⁷ such infrastructure. Section IV proposes that recognizing infrastructure is interrelated with laws, environments, and peoples only takes us so far. Rather, roads suggest that while the relationship between international law and infrastructure is indeterminate, there is a pattern of preferencing the protection of investors, which diminishes the protection of others and obscures the structural causes of financing "gaps", all of which "thrive" upon interrelationships presented as contingency and "risk".²⁸

I. New Materialism, Contingency, and Challenges

A. New Materialism

Self-termed "new materialist" scholars stress "the embeddedness of all humans in the material world", seeing material objects as exerting relational forms of agency with trajectories of their own within their entanglements.²⁹ This group of approaches is drawn

²⁵ Harvey *et al.*, *supra* note 3 at 3–5; in anthropology, see Larkin, *supra* note 2.

²⁶ Fleur JOHNS, "On Dead Circuits and Non-Events" University of New South Wales Faculty of Law Research Paper No. 19-80, 8 October 2019; Anna GREAR, "Human Rights and New Horizons? Thoughts toward a New Juridical Ontology", (2018) 43 Science, Technology and Human Values 129; see Hohmann, *supra* note 24 at 21.

²⁷ Here, "a regulatory system should be defined as the combination of institutions, laws, and processes that, taken together, enable a government to exercise formal and informal control over the operating and investment decisions of enterprises that supply infrastructure services" – not only the "actions of a formally designated regulatory entity", Ashley C. BROWN *et al.*, *Handbook for Evaluating Infrastructure Regulatory Systems* (Washington, D.C.: World Bank Group, 2006).

²⁸ Supporting Johns, *supra* note 26.

²⁹ Jane BENNETT, *Vibrant Matter: A Political Ecology of Things* (Durham, North Carolina: Duke University Press, 2009). "New materialism" can encompass a range of perspectives that decentre humans, including actor-network theory and agentic realism. For an overview, see Melinda H. BENSON, "New Materialism: An Ontology for the

from and related to Indigenous materialisms;³⁰ actor-network theory (ANT) as furthered by Bruno Latour; in Science and Technology Studies;³¹ “object”, “matter”, or “thing” focused analysis; “agential realism”; and other perspectives interested in “challenging the centrality of the human”³² and human impacts on the world.³³ Approaches described as “new materialist” are not necessarily new³⁴ and, as noted, are indebted to Indigenous materialism.³⁵ While it can be instructive to distinguish between the strands of this scholarship,³⁶ for the purposes of *this* exploratory piece, I draw generally upon “new materialist” concepts that eschew “human exceptionalism”³⁷ by de-centring humans from analysis and rejecting binaries, including human/non-human and subject/object. I seek to understand entities as “entangled” and “mutually constituted through and in their relations with each other”³⁸ so that the capacity to act, or agency,³⁹ extends beyond humans. This perspective “provokes us to look for power in new places and unexpected configurations, crossing the assumed boundaries of international law’s horizon”.⁴⁰ And so, we look to the roads.⁴¹

Proposing a starting point of interconnectedness involves tensions for legal study.⁴² Notably, “a central undertaking for new materialisms is to question that there are discrete, fixed, and pre-existing units that can be understood to relate to each other”.⁴³

Anthropocene” (2019) 59 *Natural Resources Journal* 251 at 254; discussing, for example, Bruno LATOUR, *Reassembling the Social: An Introduction to Actor-Network Theory* (Oxford: Oxford University Press, 2005); Alexander WENDT, *Quantum Mind and Social Science: Unifying Physical and Social Ontology* (Cambridge: Cambridge University Press, 2015); Karen BARAD, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, North Carolina: Duke University Press, 2007); Anna L. TSING, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton, New Jersey: Princeton University Press, 2015); see also Diane OTTO and Anna GREAR, “International Law, Social Change and Resistance: A Conversation Between Professor Anna Grear (Cardiff) and Professorial Fellow Dianne Otto (Melbourne)” (2018) 26 *Feminist Legal Studies* 351.

³⁰ On the danger of excluding Indigenous materialisms with talk of “new materialism”, see Alison RAVENSCROFT, “Strange Weather: Indigenous Materialisms, New Materialism, and Colonialism” (2018) 5 *The Cambridge Journal of Postcolonial Literary Inquiry* 353, discussing works by Alexis WRIGHT; see Jerry Lee ROSIEK, Jimmy SNYDER, and Scott L. PRATT, “The New Materialisms and Indigenous Theories of Non-Human Agency: Making the Case for Respectful Anti-Colonial Engagement” (2020) 26 *Qualitative Inquiry* 331; Vanessa WATTS, “Indigenous place-thought and agency amongst humans and non-humans (First woman and sky woman go on a European world tour!)” (2013) 2 *Decolonization: Indigeneity, Education & Society* 20.

³¹ Latour, *ibid.*; Anders BLOK, Ignacio FARIAS, and Celia ROBERTS, eds., *The Routledge Companion to Actor-Network Theory* (London: Routledge, 2019); see also Larkin, *supra* note 2.

³² Benson, *supra* note 29 at 253.

³³ Hohmann, *supra* note 26 at 15; “for an approach to temporalization that is attentive to the world-making capacities of “things” and other nonhumans”, see Emily GRABHAM, *Brewing Legal Times: Things, Form, and the Enactment of Law* (Toronto: University of Toronto Press, 2016) at 20.

³⁴ Anna GREAR, “Legal Imaginaries and the Anthropocene: ‘Of’ and ‘For’” (2020) 31 *Law and Critique* 351; see e.g. Louis KOTZÉ, ed., *Environmental Law and Governance for the Anthropocene* (Oxford: Hart Publishing, 2017); Benson, *supra* note 29.

³⁵ See *supra* note 30.

³⁶ See Hohmann, *supra* note 26; Benson, *supra* note 29.

³⁷ See Tsing, *supra* note 29.

³⁸ Hohmann, *supra* note 26 at 9.

³⁹ Benson, *supra* note 29 at 252: a capacity rather than a property of something, see Hohmann, *supra* note 26.

⁴⁰ Hohmann, *supra* note 26 at 14. Though see below in relation to power.

⁴¹ See also Rose PARFITT, “Fascism, Imperialism and International Law: An Arch Met a Motorway and the Rest is History” (2018) 31 *Leiden Journal of International Law* 509; Trevor PINCH, “On Making Infrastructure Visible: Putting the Non-Humans to Rights” (2010) 34 *Cambridge Journal of Economics* 77.

⁴² See *ibid.*; Alain POTTAGE, “The Materiality of What?” (2012) 39 *Journal of Law and Society* 167; though see, for example, Bruno LATOUR, *The Making of Law: An Ethnography of the Conseil D’Etat* (Cambridge: Polity, 2010) at 275–6; Grabham, *supra* note 33 at 36, on the role of objects in “the ‘folding’ of time in and through legal assemblages”.

⁴³ Hohmann, *supra* note 26 at 9.

This presents a challenge: how can we analyse intersections between law, roads, and anything or anyone else if there are no separable discrete objects and only dynamic relationships?⁴⁴ Undoubtedly, “the issue of how to avoid reifying law, yet recognizing that it has some distinctness in the world” while being entangled within it is not resolvable here.⁴⁵ This article merely groups particular visions or aspects of shifting assemblages to highlight the material and often ignored – here, roads.⁴⁶ Thus, the terms law, international law, infrastructure, roads, environments, populations, peoples, development, investment, etc., connote some patterning and shorthand, but these are not bounded, discrete, untested, or unloaded categories.⁴⁷

Roads, representing connections and flows, might be well-suited for investigating new materialist insights since “the parameters one has to take into account when deciding to study a road transcend most traditional social science scales (e.g. micro/macro, diachronic/synchronic, subject/object, proximate/distant, settled/nomadic, mobile/static, form/content)”.⁴⁸ Roads must be approached with acknowledgement of their (literal) intersections and material state – for instance, their repair, quality, accessibility, or construction. Roads are an important and complex (upon reflection), but familiar (even, for some, “invisible” unless broken),⁴⁹ form of interrelationships.

ANT and new materialist “paradigms” are said to offer “neither a theory nor a method” but “a sensitivity for engaging with the world”.⁵⁰ This article draws upon examples from the BRI and the Asian Highway, informed by an analysis of documents and fourteen discussions with civil society and financiers online and in Yangon and Nay Pyi Taw, Myanmar, in 2019.⁵¹ Unlike some related analyses,⁵² it does not offer an ethnographic-type analysis of a particular (stretch of) road, it directs particular attention toward entanglements with international law. Therefore, it does not fully take up Pottage’s guidance to “begin with the extensive potentialities of ‘materiality’ and ask what becomes of ‘law’ if we try to hold those potentialities open?”⁵³ Rather, it is inspired by such approaches to assess what foregrounding roads reveals about international law.⁵⁴

⁴⁴ Emilie CLOATRE, “Law and ANT (and its Kin): Possibilities, Challenges, and Ways Forward” 45 *Journal of Law and Society* 646. On the specific challenges of analysing the BRI, including a lack of data and the nascent stages of many components of the network, see James Jixian WANG and Selina YAU, “Case studies on transport infrastructure projects in belt and road initiative: An actor network theory perspective”, (2018) 71 *Journal of Transport Geography* 213.

⁴⁵ Following Hohmann *supra* note 26 at 11.

⁴⁶ Dalakoglou, *supra* note 20 at 13; Grabham, *supra* note 33 at 26.

⁴⁷ Contrast Larkin, *supra* note 2 at 336.

⁴⁸ Dalakoglou, *supra* note 20 at 14; Wang and Yau, *supra* note 44.

⁴⁹ Susan Leigh STAR, “The Ethnography of Infrastructure” 43 *American Behavioral Scientist* 377 at 382.

⁵⁰ Ignacio FARIAS, Anders BLOK, and Celia ROBERTS, “Some elements of the ANT paradigm(s)” in Anders Blok, Ignacio Farias and Celia Roberts, eds., *The Routledge Companion to Actor-Network Theory* (London: Routledge, 2019), at 1.

⁵¹ Griffith University ethics reference number: 2018/792. Discussions (rather than formal interviews) concerning infrastructure in Myanmar were anonymous at nearly all informants’ preferences. Given the small numbers and anecdotal nature of the discussions, I have avoided quoting or directly relying on these discussions, although they generally inform the analysis and approach, but one quote is used below.

⁵² Dalakoglou, *supra* note 20; Sheila JASANOFF, ed., *States of Knowledge: The Co-Production of Science and the Social Order* (London: Routledge, 2004); Latour, *supra* note 42; Star, *supra* note 49; Christine AMPUMUZA, Martijn DUINEVELD, and René VAN DER DUIM, “Material Pacification: How a Conflict Over Paving Uganda’s Tourism Road Got Accidentally Resolved” (2021) 20 *Tourism Planning & Development* 440; Vibha ARORA and Raile Rocky ZIIPAO, “The Roads (Not) Taken: The Materiality, Poetics and Politics of Infrastructure in Manipur, India” (2020) 15 *Journal of South Asian Development* 34.

⁵³ Pottage, *supra* note 42 at 180; Ron LEVI and Mariana VALVERDE, “Review: Studying Law by Association: Bruno Latour Goes to the Conseil d’Etat”, 33 *Law & Social Inquiry* 805 at 823.

⁵⁴ Larkin, *supra* note 2. On the alternatives to interviewing a road, see Ampumuza, *supra* note 50 at 12; Hohmann *supra* note 26 at 7.

B. Contingency

It has been suggested that by emphasizing entanglement and “flat” networks,⁵⁵ where all is contingent and mutually constitutive, new materialist and ANT work can produce a form of descriptive “*studied apoliticism*”⁵⁶ that struggles to incorporate persistent power and patterns of inequality.⁵⁷ Roads such as those included in the BRI and the Asian Highway are interrelated, connective, and conditional, while the billions in funding directed towards them suggest their role in generating trajectories of power. I begin with the normative position that appreciating entanglement does not absolve us from analysing specificities and interactions, including vectors of power: “[n]ew materialism does not necessitate the abandonment of distinctions drawn meaningfully between modes and patterns of *matter*” (*emphasis in the original*).⁵⁸

As the world continues to respond to COVID-19, conflicts, and disasters, mega-infrastructure projects are promoted as offering crucial stimulus to support economic recovery.⁵⁹ In doing so, officials imply that projects “themselves” will enable certain things,⁶⁰ announcing, for instance, that: “[t]his project *will* enhance connectivity” (*emphasis added*) or “liveability”⁶¹ or “country integration”, or “create jobs while ensuring safety and efficiency of the strategic roads network” and “support institutional strengthening”.⁶² Governments press claims over any perceived benefits from infrastructure developments, while presenting a perception of distance via the “project’s” off-balance sheet nature (if privately financed),⁶³ or their limited control over the project’s long-term ability to deliver on these claims. These statements promote and foreground infrastructure, connectivity, and promises by stressing the distinctiveness or innovativeness of infrastructure projects with language connoting their agency – alongside ties to jobs, integration, or liveability. Yet they also reveal infrastructure’s interrelationships and contingency with an unspoken “if”: if the project is completed on budget and on schedule, employs non-discriminately and fairly, does not reduce global climate-related liveability, is maintained correctly, can be paid for ... etc.

By emphasizing interaction, unpredictability, or instability, a new materialist perspective could dilute the “patterned and predictable” ways that assemblages of human/non-human injustice persist and target the same groups (perhaps, eco-systems, women and gender-diverse individuals, children, or minorities) again and again.⁶⁴ Fleur Johns, in particular, has pointed out that “modes of power for which contingency is generative”

⁵⁵ Cloatre, *supra* note 44.

⁵⁶ Levi and Valverde, *supra* note 53 at 823 (*emphasis in original*).

⁵⁷ Sheila Jasanoff, “The Idiom of Co-production”, in Jasanoff, *supra* note 52 at 23.

⁵⁸ Gear, *supra* note 26 at 138; Donna J. HARAWAY, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, North Carolina: Duke University Press, 2016).

⁵⁹ Frank MOURITZ, “Implications of the COVID-19 Pandemic on China’s Belt and Road Initiative” (2020) 2 *Connections: The Quarterly Journal* 115.

⁶⁰ See Kingsbury, *supra* note 3 at 177.

⁶¹ Australian Government Department of Infrastructure, Transport, Regional Development, Communication and the Arts, “Ministerial Statement: Infrastructure, Transport, Regional Development and Communications: Supporting Regional Recovery and Growth” (May 2021), online: DITRDCA <https://www.infrastructure.gov.au/about-us/corporate-reporting/budgets/budget-2021-22/regional-ministerial-statement-2021-22/infrastructure-transport-regional-development-and-communications-supporting-regional-recovery-and>; see also World Bank, “Government of Nepal and World Bank Sign \$450 Million Road Support Project in Nepal to Boost post-COVID-19 Recovery” (17 July 2020), online: World Bank <https://www.worldbank.org/en/news/press-release/2020/07/17/government-of-nepal-and-world-bank-sign-450-million-road-support-project-in-nepal-to-boost-post-covid-19-recovery>.

⁶² World Bank, *ibid.*

⁶³ Fleur JOHNS, “Performing Party Autonomy” (2008) 71 *Law and Contemporary Problems* 243.

⁶⁴ Gear, *supra* note 26; Hohmann, *supra* note 26 at 6.

exist.⁶⁵ Some suggest that these include notions of development and Sustainable Development Goals (SDGs)⁶⁶ or that new materialist approaches benefit from association with other critical, feminist, or Third World Approaches to International Law (TWAAIL) voices, some of which invite an examination of “international law as a material project in itself.”⁶⁷ For roads, a multi-lane highway “slicing through space like a great knife”⁶⁸ can be associated with green signs, tollgates, and exits in place of (just, for example) multiple smaller roads, public transportation routes, railways, or canals, or differently structured supply chains. Roadways create, destroy, or restrain alternative routes, construction materials, or methods – and are embedded within and re-promote international legal-political contexts.⁶⁹ After all, as ethnographer Dimitris Dalakoglou reminds us, the first highways were associated with the rise of fascism and modernity,⁷⁰ and roadways have delivered colonizers, slaves, and ideas since antiquity.⁷¹ While a “network ... tends to be represented as non-hierarchical”, from everyday experience, most of us will appreciate that “infrastructure imports an element of differentiation, stratification and hierarchy”,⁷² including through bus lanes and tollgates. This provides further clues that infrastructure could be a useful perspective from which to appreciate the law and *its* hierarchies.

Not only is transport infrastructure built upon inhabited land, but roads and their shoulders or corridors are sites of plant, animal, and human life (and death),⁷³ of homes; of businesses; of taking and leaving; of inclusion and exclusion; of monuments and histories.⁷⁴ In some places more often than others, roads also carry troops, central government authorities, and are sites of crime, corruption, and trafficking, or “invite” military attacks as targets.⁷⁵ Highways are constructed with, or transport, forced labour and are funded by billions tied to hoped-for-influence; they lie upon devastated ecosystems and sacred areas and carry “vibrant”, powerful things:⁷⁶ goods, drugs, weapons, and people across borders. Transport networks can also be *not* built or maintained.⁷⁷ TWAAIL and critical international law scholarship help to explain these patterned effects

⁶⁵ Johns, *supra* note 26 at 10, discussing also Susan MARKS, “False Contingency” (2009) 62 *Current Legal Problems* 1 at 2; Hohmann, *supra* note 26.

⁶⁶ On the “affective politics” of the Sustainable Development Goals, see Clive GABAY and Suzan ILCAN, “The Affective Politics of the Sustainable Development Goals: Partnership, Capacity-Building, and Big Data” (2017) 14 *Globalizations* 468.

⁶⁷ Cloatre, *supra* note 44; Hohmann, *supra* note 26; Levi and Valverde, *supra* note 53 at 812. For one example of helpful intersections, see Luis ESLAVA and Sundhya PAHUJA, “Beyond the (Post)Colonial: TWAAIL and the Everyday Life of International Law” (2012) 45 *Law and Politics in Africa, Asia and Latin America* 195 at 198 and 202, arguing for TWAAIL to take “a methodological turn to the way in which international law operates on the material or ‘everyday’ plane of life for most of the world”.

⁶⁸ Henry Lefebvre, quoted in Dalakoglou, *supra* note 20 at 8; see also Larkin, *supra* note 2 at 334.

⁶⁹ Dalakoglou, *supra* note 20 at 5–7, including on “the Third Reich’s *autobahnen* of the 1930s” and the role of the asphalt lobby in the United States; Arora and Ziipao, *supra* note 50; Larkin, *supra* note 2 at 338.

⁷⁰ See also Larkin, *supra* note 2 at 333.

⁷¹ Dalakoglou, *supra* note 20 at 5; Arora and Ziipao, *supra* note 50; Antony ANGHIE, “Colonialism and the Birth of International Institutions: Sovereignty, Economy, and the Mandate System of the League of Nations” (2002) 34 *New York University Journal of International Law and Politics* 513.

⁷² Kingsbury, *supra* note 3 at 179; Dalakoglou, *supra* note 20 at 10.

⁷³ Thomas MANCH and KYAW Lin Htoon, “The Road Rule Costing Myanmar Billions” *Frontier Myanmar*, (14 December 2017), online: *Frontier Myanmar* <https://www.frontiermyanmar.net/en/the-road-rule-costing-myanmar-billions/>.

⁷⁴ Parfitt, *supra* note 41.

⁷⁵ Coalition for Human Rights in Development, *supra* note 13; Arora and Ziipao, *supra* note 50 at 47.

⁷⁶ Bennett, *supra* note 29.

⁷⁷ See Harvey *et al.*, *supra* note 3 at 13; Andrew RUSSELL and Lee VINSEL, “Hail the Maintainers” *Aeon* (7 April 2015), online: *Aeon* aeon.co/essays/innovation-is-overvalued-maintenance-often-matters-more; Ampumuza, *supra* note 50: the “non-road”, 9; Arora and Ziipao, *supra* note 50 at 43.

with reference to international law's structural colonial, gendered, and neoliberal aspects.⁷⁸ An infrastructural turn suggests that infrastructure “*itself*” also has a role via connections with enmeshed societies and environments.

In the next section, with reference to the BRI and the Asian Highway, I first explore how some roadways “attract” international law. I then consider how infrastructure's entanglements with environments interact with international law instruments and concepts, including “sustainable development” and project “impacts”. Foregrounding interactive infrastructure reveals patterned legal frameworks that favour investor protections and cast wider social-environmental impacts as risks to be managed.

II. Infrastructure and International Law

A. The BRI and the Asian Highway: Cross-Border Investments

*As a system of standardized roads intertwining many Asian countries and with links to Europe, the [Asian Highway] network has considerably supported the realization of Asian regionalism.*⁷⁹

Infrastructure projects are more likely to attract the attention of international lawyers when perceived as networks that form the subject of international treaties or cause trans-boundary damage. As with the International Court of Justice cases involving the *Gabčíkovo-Nagymaros Project* dam⁸⁰ or the *Construction of a road in Costa Rica*⁸¹ along the border with Nicaragua, activities involving infrastructure may have “flow-on” effects elsewhere. This might be via environmental impacts, construction materials and standards, visa requirements, signage, traffic, load restrictions, and border-crossing sites. “Cross-border infrastructure” has been defined as “either an infrastructure project with activities spanning two or more countries, or a national infrastructure project that has significant cross-border impact”.⁸² However, this definition sits uncomfortably with new materialist analysis. Instead, it reveals how international law sees *some* infrastructure assemblages as engaging state borders, attracting overt linkages to international law (treaties, memorandums, and case files). By contrast, a new materialist perspective views all infrastructure as enmeshed and inseparable from networked relationships.

Global transportation involves regional connections and, as the Silk Road and the Roman road systems exhibit,⁸³ has long been conceived of as an integrated “top-down”

⁷⁸ See Eslava and Pahuja, *supra* note 68; Anthony ANGHIE and B.S. CHIMNI, “Third World Approaches to International Law and Individual Responsibility in Internal Conflicts” 2 *Chinese Journal of International Law* 77; B.S. Chimni, *International Law and World Order: A Critique of Contemporary Approaches* (Cambridge: Cambridge University Press, 2017); Christine CHINKIN and Hilary CHARLESWORTH, “Building Women into Peace: The International Legal Framework” (2006) 27 *Third World Quarterly* 937; Rose PARFITT, *The Process of International Legal Reproduction: Inequality, Historiography, Resistance* (Cambridge: Cambridge University Press, 2019); Ntina TZOUVALA, *Capitalism as Civilisation: A History of International Law* (Cambridge: Cambridge University Press, 2020).

⁷⁹ Silvia Dian ANGGRAENI and Ali MUHYIDIN, “Rejuvenating connectivity through the Asian Highway Network” *The Jakarta Post* (29 November 2014) online: *The Jakarta Post*, <https://www.thejakartapost.com/news/2014/11/29/rejuvenating-connectivity-through-asian-highway-network.html>.

⁸⁰ *Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, Judgment, [1997] I.C.J. Rep. 7.

⁸¹ *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)* and *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Judgment, [2015] I.C.J. Rep. 665.

⁸² Manabu FUJIMURA and Ramesh ADHIKARI, “Critical Evaluation of Cross-Border Infrastructure Projects in Asia”, Asian Development Bank Institute (ABDI) Working Paper 226, online: ABDI <https://www.adb.org/sites/default/files/publication/156081/adbi-wp226.pdf>, at 4.

⁸³ Valerie HANSEN, *The Silk Roads: A New History* (Oxford: Oxford University Press, 2015); Peter FRANKOPAN, *The Silk Road: A New History of the World* (London: Bloomsbury, 2015); Clifford ANDO and Seth RICHARDSON,

power-laden network, like the BRI and the Asian Highway Network.⁸⁴ The BRI (formerly known as “One Belt, One Road” and sometimes described as the “new Silk Road”)⁸⁵ encompasses roads, ports, bridges, pipelines, maritime linkages, telecommunications, and more, connecting Europe and Asia with links to Africa and the Pacific. It is intended to maximize “policy, infrastructure, trade, financial, and people-to-people connectivity” to “promote international co-operation”. It is funded by state-backed Chinese banks, the Asian Infrastructure Investment Bank (AIIB), other multilateral development banks, and private sources.⁸⁶ It represents an enormous vision crossing numerous state borders with components and effects that are not readily separable, involving legal-political-social-environmental entanglements, including with international law.

The Asian Highway Network is another cross-country initiative with the engagement of the United Nations (UN) Economic and Social Commission for Asia and the Pacific (UNESCAP) to develop highways across Asia. It also aims to enhance cooperation and connectivity across the region. The Asian Highway and the related Trans-Asian Railway network comprise “a large part of the potential transport routes along the six Belt and Road Initiative corridors”, meaning that they form part of the larger BRI vision, the purpose of which is to connect China to networks *beyond* the BRI, within which roads are just one aspect.⁸⁷ The connections among and beyond these mapped slices of planned and to-be-improved transportation infrastructure routes result from and lead to these overarching plans. The scope and funding of these initiatives reflect an intuition that transportation networks, including roads, are powerful, “emerg[ing as] entities that generate particular worlds, and while doing so, they make and break particular relations”.⁸⁸

Roads arguably attract a networked “top-down” approach to reduce trade costs, improve logistics, and offer other efficiency gains, though these are not guaranteed.⁸⁹ For instance, the ADB has argued for “the creation of a seamless Asia – an integrated region connected by world-class, environmentally friendly infrastructure”, observing that a “logistics network is only as good as its weakest link; each country in a regional supply chain gains from infrastructure improvements made in others”.⁹⁰ This responds to the materiality of “roads” physical construction (costs and materials) and connectivity, linked to an understanding of their interactions, “amplified by the scale of the project” with “higher transaction costs, more political risk and increased institutional coordination”.⁹¹ Certainly, the construction (or remediation or expansion) of each road or each phase of a project affects the whole network (and beyond). By appreciating all as entangled and recognizing

eds., *Ancient States and Infrastructural Power: Europe, Asia, and America* (Philadelphia: University of Pennsylvania Press, 2017).

⁸⁴ Anne ORFORD, “Regional Orders, Geopolitics, and the Future of International Law” (2021) 74 *Current Legal Problems* 149 at 180.

⁸⁵ Wang and Yau, *supra* note 44 at 215.

⁸⁶ OECD, “China’s Belt and Road Initiative in the Global Trade, Investment and Finance Landscape” (2018), online: OECD <https://www.oecd.org/finance/Chinas-Belt-and-Road-Initiative-in-the-global-trade-investment-and-finance-landscape.pdf> at 4, quoting President Xi; Haina LU, “Adding a Gender Perspective to China’s Belt and Road Initiative as an International Human Rights Obligation” (2019) 14 *Frontiers of Law in China* 445 at 453.

⁸⁷ UNESCAP, “The Belt and Road Initiative for Seamless Connectivity and Sustainable Development in the Asia-Pacific Region” (2021) online: ESCAP <https://repository.unescap.org/bitstream/handle/20.500.12870/4099/ESCAP-2021-RP-belt-road-initiative-seamless-connectivity-sustainable-development-Asia-Pacific-region.pdf?sequence=1&isAllowed=y> at vii.

⁸⁸ Ampumuza *et al.*, *supra* note 50 at 2.

⁸⁹ See Fujimura and Adhikari, *supra* note 83.

⁹⁰ ADB and ADBI, “Infrastructure for a Seamless Asia” (2009) online: ABD <https://www.adb.org/sites/default/files/publication/27994/infrastructure-seamless-asia.pdf>.

⁹¹ Global Infrastructure Hub, “Connectivity Across Borders: Global practices for cross-border infrastructure projects” (2021) online: Github <https://www.github.org/connectivity-across-borders/> at 1.

infrastructure and international law as mutually constituted, a new materialist perspective prompts (but does not answer) questions about why or when infrastructure drives demand for new money, policies, or laws to make it even *more* “integrated”.

Reacting to infrastructure’s complexity and persistence (as “long-term assets”), scholars and practitioners have proposed various models for “good governance” of cross-border infrastructure, including “systems” approaches that seek to reflect the purpose, elements, characteristics, and interconnections of a system.⁹² This may involve bilateral or transnational interactions between local municipal governments, provincial and national governments, and institutions, as well as the operation of international treaties.⁹³ “Institutions” for governing cross-border and regional infrastructure systemic plans can range from informal arrangements to special purpose legal entities and other legally binding frameworks, including treaty-based ones.⁹⁴ The perceived complexity of infrastructure assemblages and their materiality arguably draws systematic responses but does not necessarily involve public international law.

1. The Asian Highway, the BRI, and Treaties

The UNESCAP Asian Highway involves a treaty with thirty parties from Japan to Turkey.⁹⁵ The region has other relatively smaller agreements, such as the Greater Mekong Subregion Cross-Transport Agreement.⁹⁶ Such treaties and their annexes address topics such as signage, construction and design standards, customs, inspection arrangements, requirements for environmental impact assessments,⁹⁷ visa and immigration issues for workers, and provisions for settling disputes. By contrast,⁹⁸ the BRI is not grounded in a treaty but in a series of “Memorandums of Understanding”⁹⁹ and parts of the treaty-based Asian Highway. These documents are drafted to appear non-binding, although they may reference treaties that are.¹⁰⁰

⁹² Jose L. Wong VILLANUEVA, Tetsuo KIDOKORO, and Fumihiko SETA, “Cross-Border Integration, Cooperation and Governance: A Systems Approach for Evaluating “Good” Governance in Cross-Border Regions” (2022) 37 *Journal of Borderlands Studies* 1047; Global Infrastructure Hub, *supra* note 92 at 28.

⁹³ Fleur JOHNS, “Financing as Governance” (2011) 31 *Oxford Journal of Legal Studies* 391. Haruhiko KURODA, Masahiro KAWAI, and Rita NANGIA, “Infrastructure and Regional Cooperation”, (2007), online: ADB <https://www.adb.org/sites/default/files/publication/156715/adbi-dp76.pdf>; William Robert AVIS, “Engaging stakeholders in areas of cross-border infrastructure investment” (23 September 2015), online: GSDRC <https://gsdrc.org/wp-content/uploads/2015/09/HDQ1277.pdf>.

⁹⁴ ADB and ADBI, *supra* note 91; Global Infrastructure Hub, *supra* note 92. For example, the Maastricht Treaty conferred responsibilities on the EU to support the development and operability of cross-border (Trans European) networks (formal) and, in Latin America, an Initiative for the Integration of Regional South American Infrastructure and Plan Puebla Panama (less formal).

⁹⁵ *Intergovernmental Agreement on the Asian Highway Network*, 18 November 2003, 2323 U.N.T.S. 37 (entered into force 4 July 2005); note also the associated *Intergovernmental Agreement on the Trans-Asian Railway Network*, 12 April 2006, 2596 U.N.T.S. 3 (entered into force 11 June 2009).

⁹⁶ ADB, “Greater Mekong Subregion Cross-Border Transport Facilitation Agreement: Instruments and Drafting History” (2011), online: ADB <https://www.adb.org/sites/default/files/publication/29294/gms-cbta-instruments-history.pdf>.

⁹⁷ For example, para. 9, Annex II, *supra* note 96.

⁹⁸ Including the Trans-European Network; for example, see Wang and Yau, *supra* note 44.

⁹⁹ Office of the Leading Group for the Belt and Road Initiative, *Building the Belt and Road: Concept, Practice and China’s Contribution* (Beijing: Foreign Languages Press, 2017); Alfred WU, James ROGERS, and Jasmine LANDAU, “Belt and Road Initiative: Managing disputes risk when working with States and SOEs in infrastructure and construction projects” (2019) 12 *Norton Rose Fulbright International Arbitration Report* 8, online: Norton Rose Fulbright <https://www.nortonrosefulbright.com/-/media/files/nrf/nrfweb/knowledge-pdfs/international-arbitration-report-issue-12.pdf?la=en&revision=2af60927-1ed7-46ae-b317-5af59b72c270>,

¹⁰⁰ Mikkaela SALAMATIN, “China’s Belt and Road Initiative is Reshaping Human Rights Norms” (2021) 53 *Vanderbilt Law Review* 1427.

Since roads are considered “investments”, investment treaties seem to be the most related area of international law for developers’ lawyers.¹⁰¹ Infrastructure is often developed via complex limited liability partnerships and company structures to alter the apparent legal location of investors for taxation and other reasons so that they can “avail themselves of the important protections afforded by investment treaties”.¹⁰² Still, characterizing a road’s *material* location (despite its interconnections) in a particular “host” state affects which international treaty/treaties may operate. Lawyers suggest that the BRI is “likely to drive growth in demand for [investor-state dispute settlement (ISDS)] in the Asia-Pacific region”,¹⁰³ yet there are relatively few bilateral investment treaties between existing BRI participants. Closer analysis suggests that “commercial diplomacy appears to be prominent in protecting Chinese investments in Sri Lanka”, at least “leaving rights-based” investor-state protections “behind an increasing the role for the Chinese government” – diminishing the role of international law to that extent.¹⁰⁴ Meanwhile, investment treaties in Asia increasingly encourage mediation and conciliation rather than direct provision for arbitration.¹⁰⁵ Infrastructure is most clearly related to international law via treaties that protect investors. Still, while the BRI may expand the Investor-State Dispute Settlement agreement, the role of international law may be limited even in that context.

The ADB and others argue that while bottom-up infrastructure development has allowed for some subregional connectivity, it is necessary to coordinate a pan-Asian approach via more formal institutional frameworks and regulatory coordination – to fill funding “gaps” to pay for remediating material “gaps”, to address congestion in highway networks, and to ensure social (including human rights) and environmental protections.¹⁰⁶ This view suggests that for roads to meet an “idealized notion of seamlessly integrated systems that facilitate smooth flows of people, goods or services” across the region or the world, roads (and their apparent material limits) might generate more, or different, international law.¹⁰⁷ This hints at how emphasizing interconnectivity might justify or promote international law. Yet, by promoting private investment to secure this vision, it suggests a continuation of a situation where “instead of using the instruments of public international law to manage actors and transactions in the private realm, public international law was now used to effectively diminish its own scope and enhance the power of these private actors”.¹⁰⁸

Further, understanding infrastructure as representing dynamic and relational *entanglements* also suggests that “gaps, interstices, and zones of opacity” among infrastructure

¹⁰¹ Martin VALASEK and Matthew BUCKLE, “Investment disputes in construction and infrastructure: A look at recent cases” (2019) 12 Norton Rose Fullbright International Arbitration Report 11.

¹⁰² *Ibid.*

¹⁰³ Tony DYMOND, J. Jenifer LIM, and Cameron SIM, “Investment Treaty Arbitration in the Asia-Pacific”, *Global Arbitration Review* (11 June 2020) online: Lexology <https://www.lexology.com/library/detail.aspx?g=a8b37238-4287-48cc-8cee-21b8bc682132>; Wu *et al.*, *supra* note 100.

¹⁰⁴ Dilini PATHIRANA, “The Paradox of Chinese Investments in Sri Lanka: Between Investment Treaty Protection and Commercial Diplomacy” (2020) 10 Asian Journal of International Law 375 at 406.

¹⁰⁵ James CLAXTON, “Faithful Friend and Flattering Foe: How Investment Treaties Both Facilitate and Discourage Investor-State Mediation” SSRN (13 September 2020), online: SSRN <http://dx.doi.org/10.2139/ssrn.3690682>.

¹⁰⁶ ADB and ADBI, *supra* note 52; Peter MORGAN, Michael PLUMMER, and Ganeshan WIGNARAJA, “Regional Transport Infrastructure: Mapping Projects to Bridge South Asia and Southeast Asia” *ADB Briefs* (September 2015), online: ADB <https://www.adb.org/sites/default/files/publication/174393/regional-transport-infrastructure.pdf>; see Global Infrastructure Hub, *supra* note 92 at 86 concerning the benefits of a “strong legal basis”.

¹⁰⁷ Harvey *et al.*, *supra* note 3 at 13.

¹⁰⁸ Antony ANGHIE, “Legal Aspects of the New International Economic Order” (2015) 6 *Humanity* 145 at 154.

assemblages might be an unavoidable, even natural, state of affairs.¹⁰⁹ A formal institutional approach to pan-Asian infrastructure developments might require further agreements between states in the region.¹¹⁰ Even so, the BRI approach indicates that this does not necessarily mean a growing role for international law treaties.

By starting with roads and seeing them as entangled with the agreements that humans and states have made about them, it becomes clear that international law treaties – even for multi-billion dollar cross-border visions – are not necessarily crucial.¹¹¹ While new materialism helps to understand how infrastructure might “attract” regulation that wrestles with its complex interconnections, it does not explain the specific patterning of that relationship: favouring binding treaties for only certain apparently “cross-border” projects (the Asian Highway, not the BRI) or to protect investors and promote private actors via investment treaties. Further, roads affect more than investors and their government procurers.

III. Roads, Environments, Humans

*Road projects [forming part of the Asian Highway] have the potential to bring benefits for rural communities in Karen State ... The reality is these roads are being built in conflict zones, where massive displacement has already occurred, information is withheld from local communities, and civil society and villagers are vulnerable to human rights violations.*¹¹²

*The [elevated highway from New Kelani Bridge to Athurugiriya, Sri Lanka] project will ‘affect the lives of thousands of residents and animal species and rare birds that inhabit the area due to vehicular emissions, noise pollution, flooding, reduction in carbon absorption and oxygen production ...’*¹¹³

Alongside hopes that “connectivity across borders would speed up the transfer of goods and services, improve productivity network competitiveness and indirectly reduce poverty”,¹¹⁴ parts of the Asian Highway have been criticized for their environmental and social impacts.¹¹⁵ Components of the BRI also impact environments and peoples, including via the deforestation¹¹⁶ that threatens wildlife corridors¹¹⁷ and the pollution and draining

¹⁰⁹ *Ibid.*

¹¹⁰ See *supra* note 107.

¹¹¹ International agreements including Memorandums of Understanding, may still amount to “internationalized contracts” or involve the attribution of state responsibility. With thanks to Fleur Johns for this point, see also Lisa CLARKE, *Public-Private Partnerships and Responsibility under International Law: A Global Health Perspective* (London: Routledge, 2014).

¹¹² Karen Peace Support Network, concerning parts of the Asian Highway in Land Rights Now, “A Recipe for Global Food Security: the Fruits of Securing Indigenous and Community Land Rights” (2018), online: Land Rights Now <https://www.landrightsnow.org/wp-content/uploads/2018/10/A-RECIPE-FOR-GLOBAL-FOOD-SECURITY-web.pdf> at 21.

¹¹³ Namini WIJEDASA, “Thalangama wetland: CEA amends 2007 gazette to allow elevated highway” *The Sunday Times* (25 July 2021).

¹¹⁴ Anggraeni and Muhyidin, *supra* note 80; Land Rights Now, “Road construction leads to loss of land and livelihoods in conflict-prone region of Myanmar” (12 October 2018), online: Land Rights Now <https://www.landrightsnow.org/road-construction-leads-to-loss-of-land-and-livelihoods-in-conflict-prone-region-of-myanmar/>.

¹¹⁵ Coalition for Human Rights in Development, “Intimidation of Karen farmers in a conflict zone” (2019), online: Rights in Development https://rightsinddevelopment.org/wp-content/uploads/2019/05/CASE-20-East-West-Corridor_Highway-Project.pdf, regarding limestone quarrying.

¹¹⁶ Elizabeth LOSOS, Alexander PFAFF, and Lydia OLANDER, “The deforestation risks of China’s Belt and Road Initiative” (28 January 2019) online: Brookings <https://www.brookings.edu/articles/the-deforestation-risks-of-chinas-belt-and-road-initiative/>.

¹¹⁷ WWF, “WWF and Greening the Belt and Road Initiative” (2 November 2017), online: WWF <https://www.wwf.org.hk/en/?19680/Feature-Story-WWF-and-Greening-the-Belt-and-Road-Initiative>.

of river networks.¹¹⁸ It has been suggested that human rights violations in the strategically located Xinjiang province of China and the Rakhine State of Myanmar might relate partly to their status as critical locations for the BRI.¹¹⁹

If infrastructure is seen as entangled with the wider natural world, including people,¹²⁰ there should be deep connections between infrastructure, international environmental law, and human rights law. International environmental treaties address cross-border environmental impacts.¹²¹ Activities with such impacts can be expected to be large, located in environmentally sensitive areas, “be likely to have significant effects on the population”, or have complex or adverse effects.¹²² These characteristics match those of mega-infrastructure projects such as roads, refineries, dams, and railways (which may also support mining, for example).¹²³ Infrastructure also affects climate change, even if it is not explicitly central to the Paris Agreement on Climate Change.¹²⁴ Green energy requires infrastructure, but roads also displace forests and shape logistics and travel networks that underpin consumption and emission patterns. Transportation infrastructure can also cause and be affected by fires, floods, and landslides or require additional maintenance due to extreme weather.¹²⁵ All these issues relate to and are entangled with human behaviour.

New materialism is uneasy about focusing on *human* rights, given its commitment toward decentring the “human”,¹²⁶ but recognizes that humans exist within surrounding assemblages “as partners in *world-making entanglements* between multiple, contingently identified partners of *all kinds*” (*emphasis in original*), meaning that we can still speak of the “human” and of “human rights” while resituating that focus via recognizing humans’ immersion within surroundings.¹²⁷ This perspective suggests that “human rights” cannot be examined separately from environmental issues, whereas roads show how

¹¹⁸ Shibani MAHTANI, “How China’s Belt and Road initiative is choking the Mekong River” *Washington Post* (28 January 2020) online: *Washington Post* <https://www.washingtonpost.com/graphics/2020/world/the-mekong-river-basin-under-threat/>; Human Rights Watch, “Underwater: Human Rights Impacts of a China Belt and Road Project in Cambodia” (2021), online: HRW <https://www.hrw.org/report/2021/08/10/underwater/human-rights-impacts-china-belt-and-road-project-cambodia>; see Johanna Aleria P. LORENZO, “A Path Toward Sustainable Development Along the Belt and Road” (2021) 24 *Journal of International Economic Law* 591; Simon ZADEK and Yuan WANG, “Sustainability Impacts of Chinese Outward Direct Investment: A review of the literature” *International Institute for Sustainable Development (IISD)* (2016), online: IISD <https://www.iisd.org/publications/sustainability-impacts-chinese-outward-direct-investmentreview-literature>.

¹¹⁹ Salamatin, *supra* note 101 at 1439; see also Human Rights Watch, “China: ‘Belt and Road’ Projects Should Respect Rights: Commit to Transparency, Public Consultation at Upcoming Forum” (21 April 2019), online: HRW <https://www.hrw.org/news/2019/04/21/china-belt-and-road-projects-should-respect-rights>.

¹²⁰ See Grabham on “displacing the ontological split between nature and society” and time, *supra* note 33 at 31.

¹²¹ See Ulrich BEYERLIN and Thilo MARAUHN, *International Environmental Law* (Oxford: Hart Publishing, 2011).

¹²² *Convention on Environmental Impact Assessment in a Transboundary Context*, 25 February 1991, 1989 U.N.T.S. 309 (entered into force 10 September 1997), Appendix I; Appendix II (UNECE Convention on EIAs). See also *Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters*, 25 June 1998, 2161 U.N.T.S. 447 (entered into force 30 October 2001).

¹²³ Scott THACKER *et al.*, “Infrastructure for Sustainable Development” (2019) 2 *Nature Sustainability* 324 at 324.

¹²⁴ United Nations, Conference of the Parties, *Adoption of the Paris Agreement*, UN Doc. FCCC/CP/2015/L.9/Rev.1 (2015); *UN Framework Convention on Climate Change*, 9 May 1992, 1771 U.N.T.S. 107 (entered into force 21 March 1994), art. 4(1)(c) refers to cooperation in sharing technologies to reduce emissions in the transport sector.

¹²⁵ UNESCAP, “Review of Sustainable Transport Connectivity in Asia and the Pacific: Addressing the Challenges for Freight Transport” (17 February 2019), online: UNESCAP https://www.unescap.org/sites/default/d8files/knowledge-products/Review2019_LowRes-17Feb2020.pdf.

¹²⁶ See Gear, *supra* note 26 at 130 and 136.

¹²⁷ *Ibid.*, at 138, *emphasis in original*.

international lawyers conventionally distinguish between international environmental law and international human rights law.¹²⁸

A. The Asian Highway, BRI, and Mitigating/Assessing Impacts

*The Central Environmental Authority (CEA) has amended a 2007 gazette declaring the ecologically-rich Thalangama wetland as an Environmentally Protected Area (EPA) to allow the elevated highway from New Kelani Bridge to Athurugiriya to cross the land.*¹²⁹

The potential for roads that support the transportation of goods, services, and people to help fulfil human rights is, in some ways, self-evident.¹³⁰ But infrastructure can also have mixed and negative effects.¹³¹ In reality, these “impacts” are intertwined with the infrastructure’s material features. For example, in the case of most toll roads in Myanmar (some of which make up the Asian Highway), as a financier suggested in 2020, “these roads ... were tolled, and yet they were not in a traditional sense, a ‘toll road’” because local traffic was able to avoid the toll – enhancing equitable access while undermining the economic and financial viability of the concession. Further, developers “were restricted in terms of being able to move ahead in providing a better service by various pieces of infrastructure that are around the toll road itself”.¹³² In that way, the materiality of a road and its entanglement with surrounding communities and buildings, including toll gates, affects its attractiveness for investors (toll revenue) and its impact on human rights (accessibility). Further, roads require significant tracts of land, including in rural and relatively less accessible territories.¹³³ Where roads displace crops, forests, waterways, and wetlands, they directly affect the populations that rely upon these lands for food, homes, and cultural practices and to trade or supply others.¹³⁴

The BRI and the Asian Highway are entangled with environmental and human rights law via fragmented, non-binding guidelines. A 2017 UNESCAP report suggested that the BRI, supported by the Agreement on the Asian Highway and its design standards, in “addition to powering growth in the regional and global economy ... could also make a major contribution to meeting the goals of the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change”.¹³⁵ Indeed, international environment law

¹²⁸ On BRI effects and connections with the right to development, see Salamatin, *supra* note 101 at 1453.

¹²⁹ Wijedasa, *supra* note 115.

¹³⁰ Thacker, *supra* note 125.

¹³¹ OHCHR, “Sustainable Development Goals Related Human Rights” (2015), online: OHCHR https://www.ohchr.org/Documents/Issues/MDGs/Post2015/SDG_HR_Table.pdf at 4–5; OHCHR, “Transforming Our World: Human Rights in the 2030 Agenda for Sustainable Development” (2015), online: OHCHR <https://www.ohchr.org/Documents/Issues/MDGs/Post2015/TransformingOurWorld.pdf>.

¹³² Financier interview, Nay Pyi Taw, 2019. See Kingsbury, *supra* note 3 at 181, regarding the persistent effects of physical infrastructure, such as the design of New York roadways, that may defy legal responses.

¹³³ See United Nations Declaration on the Rights of Indigenous Peoples, the right to self-determination and Common Art 1(1) of ICCPR and ICESCR, Article 27 ICCPR, and the ILO Convention 107 and 169; Emma PALMER, “Regulating Infrastructure: Human Rights and the Sustainable Development Goals in Myanmar” (2021) 21 Human Rights Law Review 588; see Athanasios YUPSANIS, “Article 27 of the ICCPR Revisited – The Right to Culture as a Normative Source for Minority / Indigenous Participatory Claims in the Case Law of the Human Rights Committee” (2013) 26 Hague Yearbook of International Law 359, regarding addressing road construction (for logging); *Jouni E Lansman et al v. Finland* (671/1995), Views, CCPR/C/58/D/671/1995; *Anni Äärelä and Jouni Näkkäläjärvi v. Finland* (779/1997), Views, CCPR/C/73/D/779/1997.

¹³⁴ Clements, *supra* note 16.

¹³⁵ UNESCAP, “Development of Strategies to Promote and Facilitate the Implementation of the Asian Highway Design Standards” (December 2017), online: UNESCAP <https://www.unescap.org/sites/default/d8files/5-Asian%20Highway%20strategy%20development.pdf> at 24.

principles are supported by a range of aspirational goals and non-binding or “soft law” instruments that do address infrastructure, and acknowledge its entanglements, in a central way, such as the 2015 SDGs.¹³⁶ The increasing prominence of infrastructure in these goals may indicate growing recognition that the “choices made in the type and scale of infrastructure investment also have major implications for environmental sustainability”,¹³⁷ which might ultimately be reflected in international environmental and human rights law. So far, international investor *guidelines* offer a “top-down”, though adaptable, approach toward responsible or sustainable infrastructure that both reflects and deploys an understanding of infrastructure’s contingencies. Examples include the World Bank Handbook, which provides advice for establishing independent regulators; the Good Governance in Public-Private Partnerships guide; the UN Commission on International Trade Law (UNCITRAL) Model Legislative Provisions on Privately Financed Infrastructure,¹³⁸ the Model Legislative Provisions on Public-Private Partnerships;¹³⁹ the Organization for Economic Co-operation and Development’s (OECD’s) Recommendations on Public Governance of Public-Private Partnerships (PPPs),¹⁴⁰ the Policy Framework for Investment,¹⁴¹ the Equator Principles;¹⁴² the UN Guiding Principles of Human Rights Impact Assessments¹⁴³ and multiple land policies;¹⁴⁴ the UN Global Compact; and the UN Guiding Principles on Business and Human Rights. The World Bank, the ADB, and others implement in-house extensive sustainability, “social” (used more than “human rights”) and environmental guidelines and requirements.¹⁴⁵

However, states involved in the BRI and Asian Highway often engage (via departments or state-owned entities) constructors and planners directly via procurement and concession contracts.¹⁴⁶ The emphasis in many projects on privatization or private investment involves a shift toward regulation via private contracts and arbitration with guidance from industry or sector policies, and away from international or domestic judicial

¹³⁶ *Sustainable Development Goals, Transforming Our World: The 2030 Agenda for Sustainable Development*, UN Doc. A/RES/70/1 (2015); see Daniel ADSHEAD *et al.*, “Delivering on the Sustainable Development Goals through long-term infrastructure planning” (2019) 59 *Global Environmental Change* 101975; Sakiko FUKUDA-PARR, “Sustainable Development Goals” in Thomas WEISS and Sam DAWS, eds., *The Oxford Handbook on the United Nations* (Oxford: Oxford University Press, 2018) at 264; see Duncan French and Louis Kotzé, *Sustainable Development Goals: Law, Theory and Implementation* (Cheltenham: Edward Elgar, 2018); Palmer, *supra* note 135.

¹³⁷ Marianne FAY *et al.*, “Infrastructure and Sustainable Development” in Shahrokh FARDOUST, YONGBEOM Kim, and Claudia SEPÚLVEDA, eds., *Postcrisis Growth and Development: A Development Agenda for the G-20* (Washington, D.C.: The International Bank for Reconstruction and Development/World Bank, 2011), at 363.

¹³⁸ *Model Legislative Provisions on Privately Financed Infrastructure Projects*, UN Doc. A/RES/58/76 (2004).

¹³⁹ *Model Legislative Provisions on Public-Private Partnerships*, UN Doc. A/RES/74/183 (2019).

¹⁴⁰ OECD, “OECD Recommendation on the Council on Principles for Public Governance of Public-Private Partnerships” (May 2012) online: OECD <https://www.oecd.org/governance/budgeting/PPP-Recommendation.pdf>.

¹⁴¹ OECD, “The Policy Framework for Investment” (11 September 2015).

¹⁴² The Equator Principles, <https://equator-principles.com/>.

¹⁴³ *Guiding principles on human rights impact assessments of economic reforms*, UN Human Rights Council, UN Doc. A/HRC/40/57.

¹⁴⁴ For example, European Bank for Reconstruction and Development (EBRD), “Environmental and Social Policy, Performance Requirement 5: Land Acquisition, Involuntary Resettlement and Economic Displacement” (2014), online: EBRD https://www.ebrd.com/downloads/about/sustainability/ESP_PRO5_Eng.pdf; International Finance Corporation (IFC), “Performance Standards on Environmental and Social Sustainability: Performance Standard” (31 December 2012), online: IFC <https://www.ifc.org/content/dam/ifc/doc/mgrt/ifc-performance-standards.pdf>; Japan International Cooperation Agency (JICA), “Requirements for Resettlement Action Plan” (2012); World Bank, “Operational Policy 4.12: Involuntary Resettlement” (April 2013).

¹⁴⁵ See World Bank, “World Bank Environmental and Social Framework” (2021), online: World Bank <https://www.worldbank.org/en/projects-operations/environmental-and-social-framework>; ADB, “Safeguards” (2021), online: ADB <https://www.adb.org/who-we-are/safeguards/main>.

¹⁴⁶ Pathirana, *supra* note 105.

oversight.¹⁴⁷ The employment of special purpose vehicles for joint ventures and public-private partnerships (PPPs) can also obscure legal accountability. However, there may be limited cases where a state's international obligations can be attributed to a PPP, such as when an entity is empowered to exercise governmental authority or is acting on the instructions of the state.¹⁴⁸

Consequently, the main way that roadways are entangled with international law or guidance concerning what new materialism sees as interconnected environmental and social issues is via (often overlapping) treaties, domestic law, or financier requirements to complete environmental or social due diligence or Environmental Impact Assessments (EIAs) and Social or Strategic Impact Assessments (SIAs).¹⁴⁹ These may incorporate, indirectly, international laws or guidelines. In relation to the BRI, for instance, China has various domestic guidelines and policies addressing assessments. However, they arguably “appear to treat labour and other social concerns as incidental only to the environmental impact assessment requirement”.¹⁵⁰ In general, BRI projects are subject to “variable and fragmented” sustainability rules¹⁵¹ alongside “green” credit guidelines. At the same time, environmental or social issues are regulated mainly by “host” state regulatory frameworks and financier guidelines (such as those of the AIIB).¹⁵² The Agreement on the Asian Highway more clearly requires an EIA, “following national standards”, to be carried out for new road projects,¹⁵³ but this approach also has its challenges.

EIAs “are tool[s] used to identify the environmental, social and economic impacts of a project prior to decision-making”, aiming “to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers”.¹⁵⁴ If performed according to this definition, EIAs (and SIAs) could involve recognizing interconnectedness and derive projects *from* environmental/societal assemblages. However, in practice, EIAs identify environmental and social project impacts, effects, or “risks”¹⁵⁵ and specify mitigants that the project “proponent” (which can be governments, investors, or partnerships) should ensure are satisfied, although it has

¹⁴⁷ See Likosky, *supra* note 12; Clarke, *supra* note 113 at 1.

¹⁴⁸ International Law Commission, *Responsibility of States for Internationally Wrongful Acts*, 2001; *ibid.*, Chapter 5.

¹⁴⁹ Gerald G. SINGH *et al.*, “Scientific shortcomings in environmental impact statements internationally” (2020) 2 *People and Nature* 369.

¹⁵⁰ Lorenzo, *supra* note 120 at 595; e.g. the Guidelines for Environmental Protection in Foreign Investment and Cooperation; People's Republic of China Ministry of Commerce, “Notification of the Ministry of Commerce and the Ministry of Environmental Protection on Issuing the Guidelines for Environmental Protection in Foreign Investment and Cooperation” (18 February 2013), online: MOFCOM <http://english.mofcom.gov.cn/article/policyrelease/bbb/201303/20130300043226.shtml> (“shall ... conduct” EIAs versus “encouraged to take” account of impacts on the “social environment”); Editorial Committee of Climate Investment and Finance for Promoting Ecological Civilisation Construction Platform (CIFE), “China issues Guidance Policy for Climate Investment and Finance” (27 October 2021), online: Weixin <https://mp.weixin.qq.com/s/McJDVDO-iU5RWekqYWWUA>.

¹⁵¹ Lorenzo, *supra* note 120 at 602.

¹⁵² Lorenzo, *supra* note 120; AIIB, “Environment and Social Framework” (2021), online: AIIB <https://www.aiib.org/en/policies-strategies/framework-agreements/environmental-social-framework.html>.

¹⁵³ Asian Highway Agreement, *supra* note 70, Annex II, III (9); see the preamble *supra* note 96.

¹⁵⁴ Convention on Biological Diversity, “What is Impact Assessment” online: CBD <https://www.cbd.int/impact/whatis.shtml>.

¹⁵⁵ Risks include localized danger, “the probabilities of physical harm due to given technological or other processes”, and represent “a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself”, Ulrich BECK, *Risk Society: Towards a New Modernity*, 1st ed. (London: Sage Publications, 1992) at 4 and 21; Elisabeth LOSOS *et al.*, “Reducing Environmental Risks from Belt and Road Initiative Investments”, World Bank Policy Research Working Paper 8718, 25 January 2019, online: World Bank <https://>

long been argued that EIAs should be integrated into *long-term*, continuous, project design and delivery plans.¹⁵⁶

For example, an EIA was prepared for the “WeCARE-RHD program”, the Jennaidah–Bonpara–Hatikumrul Road in Bangladesh, an “important part” of the Asian Highway, as required by the domestic Department of Environment and the AIIB.¹⁵⁷ The EIA, in typical fashion,¹⁵⁸ details physical aspects of the road (its location and materials) before including a list of “Impact[s]” and “Mitigation” measures and an array of environmental issues in a lengthy table of “issues”, “impacts”, “mitigation measures”, “location”, and “who will implement” or supervise. For instance, “Clearance of vegetation ... will cause permanent and/or temporary dislocation of some wildlife”: mitigation: “[h]arming and/or killing of any types of wildlife by the workers of the project must be prohibited”.¹⁵⁹ In relation to possible erosion, the “Contractor is required to reuse the excavated soil as much as possible unless the soil is considered not suitable for filling”. At the same time, “[d]ebris, construction wastes, vegetation or other materials shall be not burned on the site”, nor shall waste be dumped “be it hazardous or non-hazardous into the nearby water bodies or in the river”. However, where the materials should be burned or dumped is not specified.¹⁶⁰

The EIA does not assess relationships between these factors or emphasize any links to international law. Impacts upon humans are not addressed in the language of “human rights”. However, the effects identified are to be mitigated via consultation or compensation,¹⁶¹ for instance, in relation to resettlement and land, which for this project would affect nearly 6,000 individuals, at least.¹⁶² The main way that listed effects are considered holistically is via the EIA’s balancing of project risks and benefits, here finding that the “project will have overall positive impacts and some negative impacts. Most of these negative impacts are mainly construction related and can be mitigated by the successful implementation of the [Environmental and Social Management Plan]”. In this way, EIAs are presented as objective analyses that set up the “project” as having (possibly negative) mitigable consequences.¹⁶³ By contrast, investors, contractors, and/or public proponents are depicted, again via the EIA, as separate from the “project” but having the ability to

documents.worldbank.org/en/publication/documents-reports/documentdetail/700631548446492003/reducing-environmental-risks-from-belt-and-road-initiative-investments-in-transportation-infrastructure.

¹⁵⁶ *Ibid.*; UNESCAP, “Multistage Environmental and Social Impact Assessment of Road Projects: Guidelines for a Comprehensive Process” (2001), online: UNESCAP <https://www.unescap.org/sites/default/d8files/esiaguidelines01.pdf> at 5.

¹⁵⁷ Government of the People’s Republic of Bangladesh Roads and Highways Department, Ministry of Transport and Bridges, “Hatikumrul-Bonpara-Ishwardi-Kushtia-Jhenaidah Road: Environmental Impact Assessment (EIA)” (2020) at 42 (Bangladesh EIA).

¹⁵⁸ For example, Manipur Public Works Department, Government of India for the Asian Development Bank, “Environmental Impact Assessment: IND: South Asia Subregional Economic Cooperation Road Connectivity Investment Program – Tranche 1: Imphal-Kangchup-Tamenglong Road” (2015); Japan International Cooperation Agency (JICA), “Simplified Environmental Impact Statement TIM: National Road No.1. Upgrading Project Road A-01 Dili – Manatuto” (2015); Enviro Infra Solutions Private Limited, “Environmental Impact Assessment (EIA) for Improvement/Widening of two lane with paved shoulder of Khowai to Sabroom section of newly declared NH – 208” (2020).

¹⁵⁹ Bangladesh EIA, *supra* note 162, xiv, 167–8.

¹⁶⁰ *Ibid.*, at xv, 187, and 197.

¹⁶¹ *Ibid.*, at 34. The report’s only mention of “human rights” in the 321-page document addresses an AIIB requirement concerning “Indigenous peoples” that “the development process fosters full respect for affected parties’ human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods. Promote sustainable development benefits and opportunities in a manner that is accessible, culturally appropriate and inclusive.” However, since “no Indigenous person has been identified”, no recommendations are made on this point.

¹⁶² *Ibid.*, at 51–2 and 101.

¹⁶³ See Sheila JASANOFF, “The Practices of Objectivity in Regulatory Science” in Charles CAMIC, Neil GROSS, and Michèle LAMONT, *Social Knowledge in the Making* (Chicago: University of Chicago Press, 2011), at 307.

prevent or address such contingencies. The relatively objective (usually passive) voice of the consultant or government department authors, mixing technical and quantitative data (number of trees, households) with descriptive mitigants, both produces and results from broader, power-laden patterns of constructing social and scientific knowledge.¹⁶⁴ These reflect interconnections, but only insofar as they generate contingencies – for which responsibility is diffused.

To be sure, EIAs present an important process for clarifying a project's interconnections – to that extent, reflecting some aspects of new materialist insight. However, first, research suggests that such assessments do not necessarily have significant effects (though they might promote gradual organizational change). At the same time, stakeholder engagement or empowerment requirements differ among countries, and transparency can nearly always be improved. In one study, “mitigation measures seemed to be generally assumed effective” rather than being actually evaluated and monitored.¹⁶⁵ An analysis of EIAs for road projects in Malaysia observed that conflicts of interest may be involved since “most EIAs are funded by the project proponent, the consultancy firm may hesitate to conduct a stringent EIA if it believes this will result in it being blacklisted in future by other project proponents”. At the same time, there are asymmetrical resources and access to scientific studies and expertise between project proponents and opponents.¹⁶⁶

Second, and relevant to a new materialist perspective, EIAs and similar analyses “assess a narrow spatial and temporal scale” of local impacts upon environments or societies (for instance, employment options or the location of monasteries or counted trees), *more than* widespread climate, cultural, or social integrations.¹⁶⁷ But by portraying particular elements as inter-connected and capable of some mitigation “if...”, the EIA instead represents a template-derived document that is shaped by and relies upon its contingency to the planned material “road” to displace responsibilities.¹⁶⁸ Drafts are then adjusted and reinterpreted in government, financial, and consultants' offices so that “impacts” – from resettlements to toxins to climate change – are translated into “known” investment “risks”,¹⁶⁹ maximizing the likelihood of securing necessary approvals and investor interest in the “deal”.¹⁷⁰ In Ulrich Beck's terms, “[d]ealing with these consequences of modern productive and destructive forces in the normal terms of risk is a false but nevertheless very effective way of legitimizing them”,¹⁷¹ but this is not necessarily accidental.¹⁷² In this process, international law norms are sometimes referenced within EIAs – not to offer accountability, but to list relevant treaties or reflect familiar terminology in the domestic

¹⁶⁴ *Ibid.*; Beck, *supra* note 160.

¹⁶⁵ *Ibid.*

¹⁶⁶ Mohamed ALAMGIR *et al.*, “Road Risks and Environmental Impact Assessments in Malaysian Road Infrastructure Projects” (2018) *Jurutera* 13 at 15.

¹⁶⁷ *Ibid.*, at 15. However, a climate change or emissions section may identify wider project effects; e.g. see Bangladesh EIA, *supra* note 162, chapter X (“Climate Change Assessment”).

¹⁶⁸ On “documents as intermediaries, the planning consent process as an obligatory passage point”, see Yvonn RYDIN, “Using Actor–Network Theory to understand planning practice: Exploring relationships between actants in regulating low-carbon commercial development”, (2012) 12 *Planning Theory* 23 at 32.

¹⁶⁹ Here, understood as investment risk: “In modern times, risk remains firmly coupled to the economic world ... Capitalist markets cannot be sustained without risk, which is ingrained in the decisions of fund managers, the speculations of market makers, the borrowing of business managers and the valuations of insurance companies”, Gabe MYTHEN, *Ulrich Beck: A Critical Introduction to the Risk Society* (London: Pluto Press, 2004) at 13.

¹⁷⁰ See next section; Valverde, Johns, and Raso, *supra* note 64.

¹⁷¹ Beck, *supra* note 160 at 22.

¹⁷² James S. ORMROD, “Beyond world risk society? A critique of Ulrich Beck's world risk society thesis as a framework for understanding risk associated with human activity in outer space” (2013) 31 *Environment and Planning D: Society and Space* 727 at 732; Mythen, *supra* note 175 at 157.

legislation and guidelines underpinning such “assessments”.¹⁷³ Overall, despite – but also because of – the interconnections between transport infrastructure and surrounding and distant environments, infrastructure projects are most closely linked with international environmental and human rights law via risk or impact assessment or management frameworks.

B. Consent and Intersecting but Patterned Effects

*We disagreed [with the land loss] because we would get this [compensation] only one time in our life, whereas the farm will provide for us forever ... The farms are the rice pot of our family. We can send our children to school because of this farm.*¹⁷⁴

Another way the BRI and the Asian Highway manages interconnections between international law and roads’ materiality and surroundings is via documented requirements to engage with “stakeholders” or “project affected communities”. The meaning of “Free and Prior Informed Consent” is contested,¹⁷⁵ while effective consultations with everyone affected, including Indigenous communities, are not always implemented¹⁷⁶ and intersect with other social, land, and environmental issues. For example, the development of a stretch of the Asian Highway in Myanmar was delayed after media attention highlighted local opposition directed mainly toward the use of a particular quarry without adequate consultation, which involved shots being fired upon protestors.¹⁷⁷ The ADB paused its funding, leaving the road “a treacherous stretch of mud, broken bitumen and pools of water, bringing traffic to a slow crawl”. Further investigations found that the quarry had not fully met environmental requirements, and alternative sources had to be found. A journalist concluded that, in future, “the government might view financing certain projects through loans from institutions such as the World Bank and ADB as simply not worth the effort”.¹⁷⁸

Genuine and representative consultation and consent processes require the protection of other human rights, such as economic rights or those regarding non-discrimination and freedom of speech and association.¹⁷⁹ Attention toward infrastructure requires attentiveness to its spatial connections to land, which encompasses relationships with animals, plants, and peoples living with and affected by lands. These effects are mutually dynamic, but the materiality of infrastructure in particular corridors of land and the location of materials, like quarries and labour, also presents what could be considered “patterned”, persistent impacts alongside broader, climate-wide effects. The construction of roads in rural Myanmar may offer greater access to centralized services, including health and education, but also increase the influence or occupation by hostile groups and provide routes for drug and sex trafficking or even armies, affecting minority groups or women disproportionately.¹⁸⁰ Further, investments in physical transportation infrastructure may come

¹⁷³ See Ormrod, *ibid.* in relation to risk as discourse, at 728; Larkin, *supra* note 2 at 335; e.g. *supra* note 167.

¹⁷⁴ Quotation from “local farmer” in Land Rights Now, 2018, *supra* note 114 at 21.

¹⁷⁵ Yu KANOSUE, “When Land is Taken Away: States Obligations under International Human Rights Law Concerning Large-Scale Projects Impacting Local Communities” (2015) 15 Human Rights Law Review 643; Stephen YOUNG, *Indigenous Peoples, Consent and Rights: Troubling Subjects* (London: Routledge, 2021).

¹⁷⁶ *ibid.*

¹⁷⁷ Su Myat Mon, *supra* note 189.

¹⁷⁸ Kean, *supra* note 190.

¹⁷⁹ Kanosue, *supra* note 182 at 659.

¹⁸⁰ Coalition for Human Rights in Development, *supra* note 117; see The Asia Foundation, “The State of Conflict and Violence in Asia” (September 2017), online: Asia Foundation asiafoundation.org/wp-content/uploads/2017/09/The_State_of_Conflict_and_Violence_in_Asia-1.pdf; e.g. in Myanmar: Kim JOLLIFFE, “Ceasefires, Governance and

at the opportunity cost of developing schools or hospitals; for example, construction job opportunities will, in many societies, be taken up mostly by men, and the operational stage may have further and different gendered and community impacts.¹⁸¹

Roads whose entanglements raise environmental or human rights “risks” may be less likely to promptly secure or fulfil approval requirements or economic or financial value calculations, which are the first hurdle for developers. In such situations, the infrastructure that is *not* built or not yet material, like the ADB-funded stretch of the Asian Highway in Myanmar, is also arguably entangled with daily transportation effects on communities and their environments (for instance, traffic and emissions).¹⁸² Interviewees in one study in India “stressed that their ‘right to paved roads’ should be recognized like [the] government’s acknowledgement of their right to water and sanitation”, and the authors observed how “politicians draw immense mileage and legitimacy from inaugurating and being associated with the completion of ‘new’ highways in India”¹⁸³ and elsewhere.

To summarize, roads traverse and uproot environments, generate communities, and physically provide access to courts, hospitals, schools, and goods and services that underpin cultures, livelihoods, and life itself (or not). They, and these intersections, further interact with and generate international law treaties and investment protections, as well as other international law standards and guidelines, especially risk-based approaches toward human rights and environmental management. This risk/mitigants/impact assessment approach proposes uncertainty (risks stem from interrelated factors), but there is *potential* for remediation or insurance, which is important to encourage investment. In that way, the apparently objective analysis relies on, and even promotes, contingency.¹⁸⁴ This paves the way for guidelines and risk frameworks, or detailed private contracts, to apply in place of international law *because* of the complexity and the long-term, technical and inter-related nature of infrastructure projects, which arguably “attracts” a more flexible regulatory approach.

The piecemeal and guideline-driven nature of international law’s relationship to roads, both imagined and built, and their intersections with society and the environment affect some groups more than others, persistently – as roads themselves provide support for the “sequencing” and “patterns” of global commodification via logistical networks.¹⁸⁵ This suggests that it is not sufficient to design infrastructure that is “sustainable” or even undergoes environmental or “human rights” assessments that, in practice, identify risks and mitigants. Identifying these connections is a start, but interconnections are more than a matter for contingency planning. Instead (as explored in the next two sections), rather than predominantly connecting with the law that facilitates investment to amplify power in networks, roadways might be co-developed in dialogue with the full diversity of human and non-human experiences they entangle.

Development: The Karen National Union in Times of Change” *The Asia Foundation* (December 2016), online: The Asia Foundation asiafoundation.org/wp-content/uploads/2017/02/Ceasefires-Governance-and-Development-EN-Apr2017.pdf at 56. See also Patrick BOLLE, “Supervising labour standards and human rights: The case of forced labour in Myanmar (Burma)” (1998) 137 *International Labour Review* 391.

¹⁸¹ See Lucy FERGUSON and Sophie HARMAN, “Gender and Infrastructure in the World Bank” (2015) 33 *Development Policy Review* 653; on the opportunities for gender-sensitive infrastructure, see Priti PARIKH *et al.*, “Infrastructure Provision, Gender, and Poverty in Indian Slums” (2015) 66 *World Development* 468.

¹⁸² See Thomas KEAN, “Asian Highway 1 revisited” *Frontier Myanmar* (7 December 2018), online: *Frontier Myanmar* <https://www.frontiermyanmar.net/en/asian-highway-1-revisited/> on the “half-built road – which handles one-third of Myanmar’s border trade”.

¹⁸³ Arora and Ziipao, *supra* note 50 at 43.

¹⁸⁴ Jasanoff, *supra* note 169.

¹⁸⁵ Johns, *supra* note 26.

IV. Hierarchies: Are Non-Roads Funding Gaps?

*Driving the truck-free expressway from Yangon North toward Nay Pyi Taw and Mandalay beyond [in 2019] is remarkably quiet. Apparently, it's because, partly to avoid damaging the 'new' expressway not built for them, trucks are instead required to hurtle through villages on the legacy 'old highway', risking the lives of children playing in the roadside villages but allowing for tolls to be paid under legacy build-operate-transfer [a form of PPP] contracts, which make it less bankable for international investors.*¹⁸⁶

A conception of all as interconnected and dynamic does not neatly explain why roadways attract international law investor protections, but environmental/social issues attract template risk assessments; that is, *how patterns* form in the entanglements that new materialism sees. This section considers road hierarchies. While data is difficult to confirm, the China Development Bank, the China Exim Bank, the AIIB, and the ADB have offered multi-billion loans to countries to finance BRI projects¹⁸⁷ and Asian Highway routes.¹⁸⁸ Indeed, green or brownfield infrastructure projects always involve significant investment, often via loans. Therefore, one way to understand roadways is via their entanglement with complex webs of loans and donor relationships. Some have argued that funding gives the BRI, and via the BRI, China, geopolitical influence through intersecting financing structures and the international and transnational law that supports them, which are said to generate a “debt trap” for borrowers.¹⁸⁹ Others suggest that much smaller states still display significant agency in BRI negotiations, including via diversification of funding sources.¹⁹⁰ These issues intersect with shifting legal, material, and contextual forces.¹⁹¹

Globally, the significant expense of mega-infrastructure is said to lead to a funding “gap”¹⁹² alongside other “gaps” such as a need for technical expertise.¹⁹³ Funding “gaps” apparently lead to, or must be resolved to fill “gaps” in the material connections of road networks or, at least, gaps in the ideal “seamless” vision of integrated infrastructure. In Section I, I suggested that new materialism might view apparent material “gaps” among networks as inevitable aspects of entanglement. This section focuses on the issue of apparent *funding* gaps. The account of a “funding gap that must be filled” (by private investors) leaves out the factors driving that “gap”. For example, fiscal barriers may be driven by sovereign risk ratings associated with colonial legacies, past financial crises, low-tax bases, natural disasters, armed conflicts, declining development aid, corruption, or neglect.

¹⁸⁶ Author's reflections on fieldwork, Yangon-Nay Pyi Taw, 2019. See e.g. Kyaw Su Mon, “Govt Calls for Foreign Investment in ‘Death Highway’ Upgrade” *The Irrawaddy* (29 December 2014), online: The Irrawaddy <https://www.irrawaddy.com/lytbox/business/govt-calls-foreign-investment-death-highway-upgrade.html>.

¹⁸⁷ OECD, *supra* note 87 at 18; Amanda LEE, “Belt and Road Initiative debt: How big is it and what's next?” *South China Morning Post* (19 July 2020).

¹⁸⁸ Srinivasa MADHUR, Ganeshan WIGNARAJA, and Peter DARJES, “Roads for Asian Integration: Measuring ADB's Contribution to the Asian Highway Network” ADB (November 2009), online: ADB <https://www.adb.org/sites/default/files/publication/28511/wp37-roads-asian-integration.pdf>.

¹⁸⁹ Salamatin, *supra* note 101.

¹⁹⁰ Linda CALABRESE and Yue CAO, “Managing the Belt and Road: Agency and development in Cambodia and Myanmar” (2021) 141 *World Development* 105297.

¹⁹¹ For example, the ADB's experience in Myanmar, Kean, *supra* note 190; Coalition for Human Rights in Development, *supra* note 117.

¹⁹² ADB, estimating the “infrastructure investment gap – the difference between investment needs and current investment levels” in Asia would be 2.4% of GDP in 2016–20, *supra* note 4; Rozenberg and Fay, *supra* note 4.

¹⁹³ PPIAF, “Annual Report: 2020” (2020), online: PPIAF https://www.ppiaf.org/sites/default/files/documents/2020-01/PPIAF_AR2020_FINALREPORT.pdf.

To attract private financing, projects need to be both economically and financially viable (or “bankable”). Foreign debt and equity investors may hesitate to invest in some developing or Global South countries unless internal rates of return (and hence the cost of capital) are very high. PPPs generally leave the government with many risks while offering foreign lenders (for instance) the opportunity to lend as part of a syndicate to a consortium that includes well-known construction and operation firms with good sustainability “credentials”, ideally alongside multi-lateral banks with stringent lending conditions. This is often more attractive than directly financing a government (or military) project.

In that context, project level documentation draws upon the material features of the roadway and the law applying to “its” location. Yet, it is also driven by the features of the “deal”, including “what the market requires” to make that deal work, which often involves some standardization.¹⁹⁴ This explains why the numerous international PPP and infrastructure guidelines can be understood as instruments of “rhetorical persuasion”,¹⁹⁵ offered as over-arching *possibilities*, differentiated and separated from more localized regulation of infrastructure developments.

Since projects intersect with diverse assemblages of societies and environments, the complexity of mega-infrastructure *encourages* the reproduction of familiar project structures, template/precedent designs and contracts, and the ticking of pre-feasibility or impact assessment boxes – translating interconnections into identified investment “risks”. With their impossible-to-anticipate contingencies and widespread, changing long-term effects, the material scale, persistence, and complexity of projects reproduce documentation and structures that maximize familiarity. Meanwhile, standardized but adaptable international guidelines offer comfort that localized risks are mitigated, at least contingently.¹⁹⁶

Nevertheless, because the guidelines and handbooks are intended to be adapted for local conditions, they are not accompanied by multilateral independent regulatory institutions to enforce them.¹⁹⁷ Indeed, Donaldson and Kingsbury argue that some

of those involved in the drafting of [some of the] instruments undoubtedly intend that infrastructure regulation escape from some existing public law controls and from what they regard as the excessive and costly reach of public lawyers and legal institutions. Others may simply be specialists in the technical elements of infrastructure and its economics ...

and are, therefore, less familiar with the legal issues.¹⁹⁸ For all the attempts at developing the new business and human rights treaty,¹⁹⁹ infrastructure reveals how

¹⁹⁴ See Johns, *supra* note 63; Fleur JOHNS, “On Failing Forward: Neoliberal Legality in the Mekong River Basin” (2015) 48 *Cornell International Law Journal* 3.

¹⁹⁵ Megan DONALDSON and Benedict KINGSBURY, “Ersatz Normativity or Public Law in Global Governance: The Case of International Prescriptions for National Infrastructure Regulation” (2013) 14 *Chicago Journal of International Law* 1 at 17, suggest that the World Bank Handbook, the UNCITRAL Model Legislative Provisions on Privately Financed Infrastructure, and the OECD Guidelines and Policy Framework for Investment are not quite “soft law”.

¹⁹⁶ See Valverde, Johns and Raso, *supra* note 64; Johns, *supra* note 63.

¹⁹⁷ Donaldson and Kingsbury, *supra* note 203 at 6.

¹⁹⁸ *Ibid.*

¹⁹⁹ OHCHR, “OEIGWG Chairmanship Third Revised Draft: Legally Binding Instrument to Regulate, in International Human Rights Law, the Activities of Transnational Corporations and Other Business Enterprises” (17 August 2021), online: OHCHR <https://www.ohchr.org/Documents/HRBodies/HRCouncil/WGTransCorp/Session6/LBI3rdDRAFT.pdf>.

international law depicts non-investor peoples and environments as “either an opportunity to exploit or a problem to be solved”.²⁰⁰

Certainly, there are helpful preliminary checklists,²⁰¹ detailed and consultation-driven reports, and disaggregated contextual analyses, including socio-economic assessments that begin to explain interconnections.²⁰² Some investors attempt to incorporate accessibility, affordability, non-discriminatory, First Nations-led and gender-sensitive consultative and adverse impact responses at the micro, meso, and macro levels – integrated with examinations of the existing situation and the project’s real needs. Yet, to centre the “tangled web” of an infrastructure project²⁰³ and its non-investor and networked impacts as the starting point, rather than viewing these as issues to be mitigated (or as part of a “value for money” calculation), might generate different international law. So far, however, the roads suggest that the role of international law is limited to offering language to translate contingency into mitigants that support power-laden impactful networks.

V. Directions

Mega-transportation infrastructures can be viewed as entangled with laws, peoples, and environments, but these contingencies underpin patterned protections. This has a number of implications. First, as the previous section discussed, the physical absence or disrepair of roads alongside the reality of their (sometimes interrupted) network connections support a narrative of demand for connective infrastructure that might promote, inter alia, trade and the fulfilment of human rights. In turn, roads and their proponents promote certain kinds of international law, such as investor protections and guidance to reduce the “risks” of environmental or social impacts and secure investment. These reflect and deploy narrower visions of interconnected, contingent infrastructure, within which projects appear to act “upon” their surroundings rather than being entangled in patterned, power-infused ways.

Second, foregrounding roads suggests that “the domain of international law might seem to be shrinking in some areas”²⁰⁴ or is at least diminished amid each contracted infrastructure “deal”.²⁰⁵ Section IIA showed how roads (or other infrastructure) with impacts that visibly, materially, cross borders might be the *subject* of an international treaty, but the BRI’s more “flexible” and “soft law” approach employs “primary agreements” instead of, for example, more formal international law treaties.²⁰⁶ Commencing with the entangled materiality of roads suggests that international lawyers should see transport infrastructure as not just scaffolding development, or as a problem to be solved, but as representing assemblages of forces. These include political and geopolitical rivalries that, in turn, intersect with international law. Countries are investing billions, even

²⁰⁰ Benson, *supra* note 29 at 268.

²⁰¹ For an example of a preliminary checklist, see the ADB’s analysis to improve a section of the Yangon-Mandalay Expressway: ADB, “Initial Poverty and Social Analysis” (March 2017), online: ADB www.adb.org/sites/default/files/project-documents/47087/47087-003-ipsa-en.pdf; “Myanmar: Greater Mekong Subregion Highway Modernization Project Bago-Thanyin Highway Rehabilitation Subproject” (October 2018), online: ADB https://www.adb.org/sites/default/files/project-documents/47087/47087-003-rp-en_0.pdf, offering detailed socio-economic analysis of the 552 households to be affected.

²⁰² On the limitations of such processes, see Coalition for Human Rights in Development, *supra* note 13.

²⁰³ Johns, *supra* note 63 at 268.

²⁰⁴ Johns, *supra* note 63 at 268. 185; see Pottage, *supra* note 42.

²⁰⁵ See Johns, *supra* note 63.

²⁰⁶ Heng WANG, “The Belt and Road Initiative Agreements: Characteristics, Rationale, and Challenges” (2021) 20 World Trade Review 282.

trillions of US dollars, and aim to exert great influence via infrastructure plans. At the same time, the role of international law seems limited to offering options for investor risk management and dispute settlement. Even there, scholars identify a shift toward “power-based” diplomatic investor protections.²⁰⁷

In that sense, roads, at least, suggest that international law’s impacts are both patterned and porous or weak. This raises questions about the role of infrastructure in shaping international law at, for example, the (literal) intersection of China-US or EU/US-Russian geopolitical rivalries along roadways and pipelines. These tensions are represented, in part, via infrastructure networks and their resultant structures, disruptions (“gaps” in the Asian Highway, for instance), and regulation. When foregrounded, roads engage most directly with domestic and investment laws and international diplomacy through partnerships and funding. By contrast, international law represents a mere background, indirectly scaffolding the road’s contextual entanglements.

Third, practitioners know that environmental or social risk assessments just identify risks that are then allocated mitigants. Beginning with infrastructure – as in Section IIB – shows how international law and soft law principles addressing SDG indicators, the environment, or human rights are applied as (often separate) frameworks for managing risks to project viability, timelines, and returns. If environmental or social impacts (in Section IIB(1)) are interpreted as unpredictable but mitigatable *if so-and-so is done*, to be “assessed” so that contingencies can be identified, this understates and *deploys* a sense of contingency.²⁰⁸ It suggests that the *project* causes impacts, but humans can take actions to prevent or reduce the damage of those impacts (using international law as a guide).

As Melinda Benson puts it (in the context of managing New Mexico’s forest systems), by focusing on the problem of how to manage a *State’s* peaceful relationships, international law offers “a fragmented approach that tends to focus on one aspect of the system at a time”²⁰⁹ rather than acknowledging entanglements. This reflects what activists, geographers, and anthropologists have long argued: project environmental impacts cannot be separated from wider structures of dispossession and colonialism, especially of Indigenous communities,²¹⁰ in which international law has played a central role.²¹¹ This cautions against suggesting that infrastructure projects’ limited direct use of international human rights or environmental law requires stronger, more authoritative forms of international governance, including stronger international law institutions, which might further standardize or obscure these complex effects.²¹² Instead, feminist, TWAIL, and critiques of neoliberalism all offer intersecting explanations for the patterned relationships between international law and physical infrastructure, which roads, in their materiality, shape.²¹³

Fourth, foregrounding infrastructure helps illuminate how materiality is important for the law. Roads exist and change over long distances for a long time and are managed under long-term contracts (that must manage unknowable contingencies) throughout

²⁰⁷ Pathirana, *supra* note 105.

²⁰⁸ See also Larkin, *supra* note 2 at 335.

²⁰⁹ Benson, *supra* note 29 at 268.

²¹⁰ For example, Andrew CURLEY, “Infrastructures as Colonial Beachheads: The Central Arizona Project and the Taking of Navajo Resources” (2021) 39 *Environment and Planning: D, Society and Space* 387; Anne SPICE, “Fighting Invasive Infrastructures” (2018) 9 *Environment and Society* 40; Anna STANLEY, “Aligning Against Indigenous Jurisdiction: Worker Savings, Colonial Capital, and the Canada Infrastructure Bank” (2019) 37 *Environment and Planning: D, Society and Space* 1138.

²¹¹ See *supra* note 79; Eslava and Pahuja, *supra* note 68; Anghie, *supra* note 72.

²¹² Hohmann, *supra* note 26 at 18.

²¹³ E.g., Parfitt, *supra* note 41; Eslava and Pahuja, *supra* note 68.

geopolitical cycles. We cannot combat climate change or promote human rights without transportation infrastructure; it is so integral to global life. As described in Section IIB regarding the quarry in Myanmar or driving from Yangon to Nay Pyi Taw, the physical persistence of a roadway and its constituent materials, even in disrepair, makes it something that international law must grapple with rather than only direct or govern. On the other hand, the tendency of governments and investors to stress a *project's* or *network's* benefits and risks indicates how appreciating the trajectories or even agency of objects and their assemblages of investors and contracts can distance and diffuse particular humans from accountability. In this way, roads – as material components of connectivity-focused logistical highway networks (for instance) – promote an understanding that diminishes possibilities for alternative assemblages of matter (railways or canals) or as part of maintainable, collaborative, constructed “road” materials.

However, Section II displayed several limitations of this new materialist perspective for addressing these issues. Regarding implementation challenges, it still considered “roads” and their relationship to “law” and found patterned effects that relate to how such categories are understood and delineated – for instance, my understanding of international law as it relates to treaties and international guidelines. I could not escape the infiltration of “an overlay of preconceptions built up through received categories from ... Western thought and the disciplines”²¹⁴ or subject/object/human/non-human binaries. My new materialist-inspired approach could not explain *how* particular understandings of roads (such as the specific grouping of the BRI) could be understood as fully entangled with international law or *why* these categories constitute particular social relations.

Fifth, as evident in the discussion concerning the ADB stretch of highway in Myanmar in Section IIB(2), an emphasis upon materiality must still grapple with the “lack of” and failure to maintain infrastructure. Transport infrastructure can be planned or hoped for but not yet funded or operational. A road cannot facilitate access to human rights, reduce emissions by shortening travel times, or provide an alternative route less damaging to an ecosystem if it is not built or falls into disrepair. As developed in Section III, if there are no allocated funds to build or maintain or governments (and development agencies) have different priorities, private financing is offered as an alternative to fill funding “gaps” and, thereby, roadway “gaps”. This might work for “bankable” projects in jurisdictions with good governance. By contrast, multi-lateral banks or overseas development funding assists where risks appear higher – supported, in turn, by international institutions and development and investment frameworks. The *non*-construction and *non*-maintenance of infrastructure attract different financial structures, but the same dynamics of attracting investment (or not) remain.

This presents a challenge for new materialism, which tends to focus on what “is” rather than the non-material what-could-be. Instead, Section III suggested that structures that contribute to so-called funding “gaps” in meeting “demand”, including taxation, the effects of conflict or natural disasters, legacy sovereign risk ratings, global logistical systems, and so on (often associated with occupation and colonialism), should be the target of attention, rather than reforms aimed toward attracting expensive private funds that entrench the need for them.

Finally, a “flat morphology neglecting social hierarchies” lies in tension with “the morphology of the sociocultural entities around a road [that] is evidently hierarchical and unequal”.²¹⁵ Indeed, interconnections and contingency present the “project” as holding symmetrical impacts alongside their human, government, and corporate proponents, whereas the dynamic intersecting matter and flows associated with road networks involve

²¹⁴ Hohmann, *supra* note 26 at 8; Quiroga-Villamarín, *supra* note 24 at 459.

²¹⁵ Dalakoglou, *supra* note 20 at 13.

entangled but also patterned effects. If particular transportation networks are developed via treaties and some not, if particular investors prepare human rights or environmental impact or risk assessments (that manage contingencies) and some do not, if particular projects do (via their planners, financiers and constructors) destroy and harm and some do not ... simply revealing these types of interrelationships is unlikely to stimulate emancipatory change.

VI. Conclusion

This article does not intend to promote the existing lack of international law restraints upon the infrastructure sector or invite formal responses toward this indeterminacy that will cause their own harm.²¹⁶ Instead, given the trend toward “infrastructure diplomacy”,²¹⁷ it suggests that road “networks” contingent promises (of economic growth, development, or access to human rights)²¹⁸ and patterned protections (harms, non-construction, and disrepair) reveal loose and even sometimes harmful entanglements with international law. Instead, we might consider alternatives to regulating roads as global supply networks, such as beginning with “a commitment to care”²¹⁹ or open-minded forms of cooperation.

If roadways are recognized as producing the connectivity that underpins international relations, which many states seem to believe and fund, a reformist or revolutionary approach toward international law must reckon with those roads and the historic paths they follow or “slice” through.²²⁰ These issues are relevant for other forms of infrastructure that interact to shape and be constituted by international law.²²¹ International law decentres and separates *some* humans and environments more than others, deploying a sense of contingency to justify wide-ranging general, fragmented risk frameworks while actually centring investor demands.²²² Among the complexity and long-term entanglements of an infrastructure project, it is not surprising that international law, embedded as it is with these and older colonial dynamics, struggles to “safeguard those human beings and communities, animals, and other living ‘critters’ positioned as predictable outsiders”.²²³

Therefore, this article is tentative about the potential of an infrastructural turn. Focusing on roads has suggested that infrastructure promotes particular assemblages and international law frameworks. Roads, via their interactions, kill and create. Perhaps most helpful is that, by identifying the power-laden “trouble” roads present,²²⁴ including for international law, noticing patterned effects also invites the possibility of alternative patterns. When situations are interdependent but not randomly so, and if power can come from multiple sources but travels by a road network, if we listen closely enough to “roads”, we might better understand international law’s current and future paths.

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²¹⁶ Hohmann, *supra* note 26 at 17.

²¹⁷ Artyom GARIM, “Quad Infrastructure Diplomacy: An Attempt to Resist the Belt and Road Initiative” *Modern Diplomacy* (26 July 2021) online: *Modern Diplomacy* <https://moderndiplomacy.eu/2021/07/26/quad-infrastructure-diplomacy-an-attempt-to-resist-the-belt-and-road-initiative/>.

²¹⁸ Arora and Ziipao, *supra* note 50 at 42.

²¹⁹ Cloatre, *supra* note 44 at 646.

²²⁰ See Eslava and Pahuja, *supra* note 68.

²²¹ For example, Likosky, *supra* note 12; Larkin, *supra* note 2.

²²² *Ibid.*

²²³ Gear, *supra* note 26; Anghie, *supra* note 72.

²²⁴ Haraway, *supra* note 58.

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Dr Emma PALMER is a Senior Lecturer at Griffith Law School, Griffith University, in Queensland, Australia.

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