In 1697, the author Daniel Defoe, famous for his novel *Robinson Crusoe*, wrote a book titled *Essays Upon Projects*. The word ‘projects’, during Defoe’s times, meant unscrupulous means of making money, usually by building structures, such as housing or public utilities. The ‘age of projects’ as Defoe (1702) called it, inaugurated an era preoccupied with the built form. In the 19th century, this built form consolidated as ‘improvement’, or governments seeking to uplift subjects by building public works projects. In the 20th century, governments, private finance and experts all came together to recreate ideas of improvement into that of development or a common condition of progress for human kind. A key facet allowing a variety of actors to ‘improve’ and ‘develop’ societies has been infrastructure. That is, built forms which facilitate and enable (and disable) social life, economic activity, commerce, movement and aid colonial and postcolonial state formation.

We employ the term infrastructure in an analytical fashion, arguing that a variety of new histories, in this case of colonial South Asia, can be anchored around the concept of infrastructure. Specifically, we argue that using infrastructure as a heuristic category allows for a re-evaluation of the history of the political economy of modern South Asia, which has been studied through the prisms of space, capital and the social. Anthropological research has defined infrastructures as physical and material objects, such as roads or water pipes, through which people, capital, finance, non-humans and technologies move through. Brian Larkin shows how anthropologists have explored the political rationalities that underlie technological projects, the systems that infrastructures are implicated within and the affect and sentiment they inspire. Other interventions have conceptualized infrastructure as a social relation (Elyachar, 2010) and as a form of ‘calculative reason’ (Mitchell, 2001) which informs a vast field including governance, engineering, transport and communication (Carse, 2017). To quote Larkin (2013, 339) again there are a number of ways to ‘analyse and conceive of infrastructures’. However as Nikhil Anand, Hannah Appel and Akhil Gupta (Anand et al., 2018, pp. 8–9) argue, most ethnographies study the neoliberal era, but there is little discussion of the ‘public’
nature of infrastructures and their meanings in the colonial and postcolonial times. While some headway has been achieved in documenting the manner in which the category ‘public works’ was initially employed in the colonial archives to refer to the movement of goods and later on to describe more specific infrastructures meant for the transport of people, these works have anchored it on to narratives about empire and state building (Ahuja, 2009, Chap. 2). While not aiming to theoretically reframe this literature, we draw from it, and ask how the category of infrastructure understood more broadly as a socio-material and technical assemblage of practices and institutions, which enabled new forms of governance and claim making, circulation, appropriation and dispossession (Nikhil Anand, Akhil Gupta, & Hannah Appel, 2018) can conceptually open up and pluralize the histories of public works projects. We show how the history of such projects can be reframed through researching the material and cultural life of public works projects, their impacts on the worlds of labourers and the intertwined nature of infrastructures and the environment.

In the first part of our essay, we show how railways, canals and other kinds of public works projects have a long lineage of scholarship in economic and social history. In the second part, we focus on four works, of Ravi Ahuja, Manu Goswami, Rohan D’Souza and Nitin Sinha, to show how the concept of infrastructure has come into explicit focus in South Asian history (Ahuja, 2009; D’Souza, 2006; Goswami, 2010; Sinha, 2012). Combining theoretical and empirical approaches, these key interventions help in engaging with the history of ‘public works’ and its framing as part of an inherently progressivist and modernizing discourse of the state. In the third section, drawing on newer works in South Asian history, we explore how understanding the life worlds around public works projects and the material, environmental and speculative nature of such projects leads to new ways of thinking about infrastructure. In this section, we unpack the future directions of writing the history of infrastructure. One way is to write accounts of single public works projects and to document its effects on livelihoods, mobilization of multiple circuits of labour, the interactions between humans and the environment and the specific character that caste and class assumes. Second, by engaging with recent scholarship on the history of railways and urban histories, we argue that foregrounding everyday social and cultural relations around public works projects reveals how complex categories of governance and difference emerge. Third, we suggest that public works projects are fertile grounds to explore the complex and peripatetic life worlds of labourers, who both experienced unfreedom on account of them but also appropriated infrastructures towards their own ends. Fourth, we show that infrastructural projects shaped by and reshaped the environment, thereby creating new forms of market driven land governance. These were not forged in ways that were solely colonial or state driven.

The scholarship on the history of public works, while perhaps not self-consciously so, has a rich lineage. Colonial officials wrote and argued over public works projects, their relative benefits and detriments. Similarly, Indian nationalist politicians responded to these claims, with their arguments on how public works projects facilitated a ‘drain of wealth’. The first generation of scholarship on public works in British India, pioneered by economic historians echoed the cost-benefit approach, while another strand of scholarship subsumed public works projects within the framework of the history of technology.

Beginning from the 1830s, the colonial state, across British India began constructing large scale public works projects, namely, the railways and canals. These projects evoked interest among the British parliament, military engineers, colonial administrators, local rulers and later nationalist politicians. For instance, a famous debate ensued between the famous colonial engineer Arthur Cotton and Proby Cautley on the relative benefits of transportation by canals versus railways and on the productivity of canal systems (Cotton, 1864). Indian nationalists responded by equally focused on infrastructure; Romesh Chandra Dutt and Dadabhai Naoroji developed what was known as the
'drain of wealth theory' and argued that British infrastructure building served as a means of exploiting the Indian economy (Dutt, 1950; Naoroji, 2016).

Early scholars replicated this balance-sheet approach of analysing colonial infrastructure, albeit with hindsight and aggregated data, which spoke to the extent of railway expansion and impact of the railways on the colonial economy. In the case of canals, Elizabeth Whitcombe (1972) argued that rather than expanding the arable frontier, irrigation canals had brought about waterlogging and salinization. Ian Stone (1986) opposed this perspective, arguing that while ecological costs existed, they were outweighed by increasing peasant incomes. These early studies, as Neeladri Bhattacharya (2004) suggests, were done through a calculative and cost-benefit modality, using data derived from colonial sources.

The magisterial Cambridge Economic History of India systematically addressed the railways. John Hurd argued that there was no doubt that the railways had made transport quicker and cheaper by around 1900. However, Hurd (Hurd, 1983, pp. 742–743) also suggested that wasteful capital expenditure, the government-guaranteed rates of interest and the political location of railway tracks together contributed ultimately to the ‘drain’ of the Indian economy. Furthermore, according to Hurd, the British Raj prioritized the political control offered by the railway instead of investing in other infrastructural ventures, such as roads, irrigation technology, agricultural knowledge or canal and navigation building.

Daniel Thorner, an economist writing in a similar vein on the British railways made two arguments, which have implications on how we understand infrastructure. First, Thorner suggested that the initial agreement enacted between the EIC and private railway contractors was heavily weighted in favour of private companies. Specifically, a clause in the agreement mandated that the East India Company pay a 5% return to the railway companies, no matter the fate of the investment (Thorner, 1950, p. 173). Thorner (1950, p. 178) argued that this was the ‘march of private enterprise hand in hand with the struggle for sweeping private aid’. In addition, the railways were heavily under-capitalised, charging high rates and carrying little load, rather than the other way around. Furthermore, according to Thorner (1950, p. 400), the railways integrated ‘self-subsistent but not egalitarian’ village units into a market economy, ultimately undermining agriculture as peasants were forced to cultivate cash crops for distant markets.

The railways, it is important to highlight, were also a catalyst. That is, it pushed new kinds of industries into functioning and created new trade linkages, leading to new forms of work, which were embedded in older practices of industrial life. On the eve of independence, the railways were employing over 100,000 workers (Hurd, 1983, p. 748). Perhaps the most important of these ‘linkage industries’, as Hurd shows, was the coal industry. While early histories of the railways and indeed the Indian economy simply pointed to India’s coal reserves as an important and underexploited frontier, coal had much broader implications in driving a diverse set of built environments and infrastructures and worlds of work (Hurd, 1983, p. 750; Lahiri-Dutt, 2016; Nite, 2016). However, as Hurd (Hurd, 1983, p. 749) points out, ‘Rails, points, fishplates, machinery, locomotives, even sleepers, were almost all built outside India.’

The subject of canal irrigation further inspired a host of studies exploring their politics and the nature of the colonial state. Minoti-ChakravartiKaul, for instance, showed how irrigation schemes led to encroachment of the village commons. David Hardiman (2002) explored how local caste politics influenced whom canal water benefitted. In response to scholarship suggesting that colonialism was the sole transformative agent of irrigation works in South Asia, Mosse and Sivan (2003) showed that precolonial infrastructures, in this case tanks, were not necessarily egalitarian in nature but enveloped in different kinds of hierarchies. In doing so, Mosse argued that precolonial water management infrastructures and communities thrived at moments and failed during others. Gilmartin (1994) argued that canal irrigation introduced different aims within the colonial bureaucracy. While revenue officials were interested in the ‘science of empire’, engineers were more interested in ‘imperial science’. Each of these approaches complicated the study of the colonial state and its various arms, through using the instance of irrigation infrastructure.

An early way of bringing together these separately examined infrastructure projects was the history of technology. Specifically, scholars looked to public works projects to explain technological transfer and assertions of power and legitimacy. These writings can be categorized into two strands. First, scholars suggested that technology was a form of European and imperial dominance that the West imposed on the East to extract and destroy (Adas, 2015;
Headrick, 1988). Second, others argued that technologies developed through the European colonial encounter (Deepak Kumar & MacLeod, 1995). As an analytical concept however, infrastructure, we show, is far more encompassing than technology, at least in the way these early studies defined it.

In revisiting sites such as the railways, shipping networks and mines, we suggest that infrastructure as a concept does not merely view such projects as technologies of dominance, civilization or experimentation but lived artefacts. These histories furthermore do not move beyond understanding the rule of difference as divided between colonial and indigenous ways of conceiving of and utilizing technology. In most of these studies, public works projects were analysed in terms of their use value. In other words, there is a functional usage for each kind of project, which is eventually computed into money value. This consequently produced a net positive or negative for Indian society and served as a comment on the British Empire. For instance, ports are useful in so much as they are connected to the railways, market towns and shipping industries, but do not themselves produce a field of power, serve as a source of life, create new knowledge or sustain registers of economic and environmental life.

2

In this section, we examine four works which have unpacked prevailing assumptions about infrastructure referring to large scale state driven projects, intended to serve a particular purpose, whether to construct something new, to connect far flung areas, shorten distances, transform space and spatial relations. Infrastructural projects were supposed to sustain permanence and stability and create transformation (Carse, 2016). We suggest that the aim of these works is not to understand the social lives of infrastructure itself but to consider public works projects as a means to different ends. Manu Goswami for instance considers public works as a central aspect of how national space was produced. Ravi Ahuja similarly understands transport infrastructure as a key facet through which regional space was produced in an uneven manner. Rohan D’Souza uses irrigation projects as an instance to show how colonial capitalism disciplined nature and ecology. Refusing a homogenizing impulse, Nitin Sinha understands multifarious transport infrastructure as an inherently hybrid production of colonial and native cultures. Infrastructure, then, serves as an analytical tool to open out spatial categories, natural resources and circular communication.

Manu Goswami (2010) locates the histories of infrastructure within a colonial political economy project of crafting a bound national space. Goswami shows how the colonial state used densely woven networks of transport infrastructures to envisage a new space of flows of people, commodities and goods. For Goswami, the late 19th century convergence between global capitalist expansion and consolidation of colonial territorial power represented processes of spatial fragmentation and integration, creating on the one hand coherent territorial units, while on the other widening boundaries and reinforcing dense connections between local economies and regions and imperial spaces (Goswami, 2010, pp. 48–50). These contradictory historical tendencies, surfaced in two ways.

First, post the native rebellions of 1857, there was a massive creation of infrastructural networks, including but not limited to the building of railways, irrigation works and roads, which inserted India into an expanding global economy, aiding its transformation into a source for raw materials as well as a market for finished manufactured goods. Secondly, colonial power began to articulate itself through the governance of economy and a set of practices such as taxation, mapping, statistical surveys, monetary standardization, budgeting and accounting of national incomes based on the yearly reports on ‘The Moral and Material Progress of India’ (Goswami, 2010, Chap. 2). Both the expanding sinews of colonial power and the interlinked networks of transport and communication under the guise of ‘public works', made possible the linkages between people and territory, as well as synchronized the economic interests of the colonial state and colonized subjects (Goswami, 2010, p. 80).

However, this imperial project far from producing a unified and homogenous space was underwritten by its ability to internally differentiate and produce unevenness (Goswami, 2010, p. 124–26). For instance, the advent of railways privileged certain routes and regions more attuned to the demands of global commerce, over the existing circulatory networks. In doing so, it undercut preexisting trading networks and intensified regional and rural–urban
differentiation. Such forms of spatial unevenness also extended into ways in which class and racial particularities affected how people, in particular labour experienced modern travel. Goswami (2010, Chap. 7) suggests that spatial unevenness and the resultant decline of existing economies and trade routes constituted the foundation of nationalist articulations about impoverishment and drain of wealth during the 1870s and 1880s. Nationalists, such as Dadabhai Naroji drew upon Freidrich List's conception of a self-sufficient economy to mount a critique of the expanding world order and envision a territorially bounded entity in opposition to the colonial space (Goswami, 2010, p. 218). Appositely, these critiques were developed as what Goswami calls 'concrete abstractions'. That is, this economic envisioning of a territorially bounded entity as an alternative to a colonial economy was tied to global conversations at a historically specific moment. Like Marx's category of abstract labour, nation space was an abstraction that Indian nationalists creatively deployed in multiple contexts (Goswami, 2010, p. 209). infrastructural projects then were meant to bolster the legitimacy of this space and its people, rather than cater to world markets.

Rather than a story of linear economic homogenization, Goswami contends that the very basis of colonial and national state space was underwritten by its ability to internally differentiate and produce unevenness. For instance, the advent of railways far from creating homogeneity and a uniform space of production, privileged certain routes and regions over the existing circulatory networks, thereby exacerbating regional and rural–urban differentiation. While Goswami's account about public works and infrastructural expansion creating contradictory tendencies for integration and unevenness is useful, her analysis weighs heavily on privileging the colonial/national moment of spatial restructuring.

In this regard, Ravi Ahuja’s (2009) work on the transport history and built environments of Orissa demonstrates conceptual and methodological novelty in three significant ways. First, by adopting a longue duree approach in studying a region considered marginal in histories of transport; Ahuja challenges the prevailing assumptions about precolonial spaces representing a tabula rasa. According to Ahuja, Orissa possessed an ancien regime of communication consisting of coastal and pilgrim networks, cotton roads and river channels that was oriented around the seasonal production of salt, grain and textile manufacture (Ahuja, 2009, Chap. 4). These circulatory networks dating back to the 17th century, continued to exist over long historical spans until the large scale colonial construction of 'trunk' roads in the 1860s (Ahuja, 2009, pp. 186–187).

Second, Ahuja unpacks the historicity of infrastructure relating it to the changing priorities of the colonial state. During the early colonial era, road building was limited to the construction of the dak roads (mail roads) intended to transport troops and ensure the speedy relay of political and military intelligence (Ahuja, 2009, Chap. 3). In the aftermath of the 1857 rebellions, the language of political legitimacy underwent a perceptible shift towards improving the colonial state's productivity. Within this new architecture of state power, colonial officials dubbed roads and railways as 'public works', which served the civilization rhetoric of the colonial state as the sole vehicle of improvement and modernity. These ideological claims to open up unchartered territory in the colony acted as a powerful motif to override the rich mix of riverine and road networks that existed previously. Instead, the new public works projects fed into the triumphalist accounts of railways and roads fostering greater connectedness and circulation (Ahuja, 2009, pp. 28–29). In contrast to such accounts which have stressed 'the naturalness and utility' of public works, Ahuja asks whether at all public works projects were universally beneficial to all social actors.

Third, Ahuja (Ahuja, 2009, Chap. 7 & Chap. 8) argues that transport infrastructures were built upon extant 'social space' comprising a complex ensemble of diverse social practices and relations between social groups. Far from uniform and homogenous, the growth of public works had to contend with these 'contradictory constellations of social relations' that resisted and accommodated colonial road and railway projects. For instance, during the early colonial period petty chiefs, zamindars and village headmen of the Garhjat region in the interiors of Orissa resisted colonial projects of road building (Ahuja, 2009, Chap. 5). By the latter half of the 19th century, these local rulers transitioned into entrepreneurs aiding the colonial state in establishing road and rail links for 'improving' the territory (Ahuja, 2009, Chap. 8). These shifting priorities of the regional elites also coincided with a simultaneous intensification of the use of bethi or unpaid labour for the construction of these projects (Ahuja, 2009, pp. 290–300). For Ahuja, the labouring poor apart from experiencing unfreedom had also evolved strategies to appropriate infrastructures for
migration, exchange of village produce for local markets and even new occupations, such as fishing. By braiding these social histories of multiple actors, contexts and contending interests, Ahuja moves, albeit in a limited way from a state and railway centric account of public works to underscoring the significance of regional and localized contexts.

Ahuja’s work offers insights on how quotidian social practices destabilized the concreteness of infrastructure. However, it is not the explicit focus of the work. In his study of transport history in Bihar, Nitin Sinha (2012) demonstrates that the emerging communication regime was shaped by colonial-capital imperatives as well as by the mobile life worlds of itinerant communities, peddlers, mercantile networks and precolonial economic structures. Sinha analyses two different scales, by examining the shifting and interlocked meanings of two categories ‘communication’ and ‘interior’: the manner in which they were deployed in colonial sources to refer to an ideological and material sub-stratum of colonial statecraft as well as to unchartered native territory that needed to be mapped and made familiar. For Sinha, military and commercial exigencies of the late 18th and early 19th centuries generated the momentum for large scale road and railway constructions as well as scientific expeditions, which brought engineers, speculators and the colonial state to act in union to open the interiors. In exploring links between the accumulation of geographic knowledge through colonial state sponsored cartographic exercises, official itineraries, travelling practices of peripatetic communities and the actual mobilization of labour and capital, Sinha has effectively demonstrated the intersection between colonial knowledge formation, social practices and the shifting regimes of communication. What is strikingly novel is his attempt to go beyond a descriptive account of the effects of colonialism and instead employ ‘communication’ in an analytical manner, that integrates histories of mapping, circuits of trade and mobility, technology and colonial state policy formulations within a single framework. Unlike other works reviewed here, Sinha also manages to bring a range of sources, such as travelogues, colonial state sponsored road, route books, vernacular texts and folksongs in dialogue with each other.

Sinha makes four key arguments. First, road building and railway policies were aimed at trade and military concerns, which promoters of the railways combined to gain consent from different stakeholders including capitalists and the British political authority (Sinha, 2012, Chap. 2 & Chap. 8). Second, colonial attempts to gather information about routes in the latter half of the 18th century relied on the banjaras or the wandering salt traders, travelling mendicants such as fakirs or gosains (Sinha, 2012, Chap. 5) as well as through an economy of print and visual representations of space. Third, the railway and steamship centric narratives of the mid-19th century excluded colonial road building projects which instead of displacing existing networks, were realigned to older trading road networks (Sinha, 2012, Chap. 6). The construction of the Grand Trunk Road, the establishment of the Ferry Fund and the Road Fund are all significant developments of a period, often termed the Age of Steam’ (Sinha, 2012, pp. 161–67).

Sinha contends that claims about transformation and technological superiority have often ignored the limited impact of big infrastructures on the workings of the local economies. For instance, steamships often ran into troubles navigating the peculiarities of the river Ganga which not only forced technological adaptations but also resulted in a severe loss of capital (Sinha, 2012a, Chap. 6). Fourth, Sinha argues that the extent of the impact of the transport infrastructures on the existing trade networks has to recognize existing ‘nested networks’ of commodity traffic and mercantile ties (Sinha, 2012a, Chap. 7). Instead of presenting a generalized picture of decline, Sinha proposes a region and commodity centric approach. The disruptive effects of colonial policies on the trade of certain commodities such as salt and attached livelihoods were clear, while others were not as pronounced. Similarly, he argues that when a new railway grid gradually developed in the 1860s in Bihar, the new trading networks and commodity exchange, fostered greater interconnectedness between the worlds of peddlers, merchants and capitalists, thus dispelling assumptions about a whole scale substitution of precolonial trading/travelling networks (Sinha, 2012a, Chap. 8). While being critical of the sharp breaks and neat transitions that have often been the staple diet of historians, the book tries to sustain a continuous dialogue between past and present, actors and institutions, culture and materiality without privileging either.

Rohan D’Souza’s (2006) work on rivers in Eastern India turns its attention from spatial transformation to the importance of infrastructures in controlling the shifting character of the environment. D’Souza suggests that colonial
rule transformed the Mahanadi delta in Eastern India from a flood-dependent agrarian landscape to a flood vulnerable one. The colonial state built public works projects in order to transform property relations in the Mahanadi delta (D’Souza, 2006, p. 55). That is, colonialism structured land ownership on extracting rent and controlling nature, rather than on the principle of rent constituting a part of a political relationship between state functionaries and community, like in precolonial times. Much of this transformation was undergirded by public works projects. For instance, until the 1860s, colonial military engineers focused on repairing and building small embankments in order to control the Mahanadi River flooding. However, from the 1860s, this was found ineffective, and engineers turned to controlling the floods at the head of river (D’Souza, 2006, pp. 121–122). This attempt to control the flood, as D’Souza (2006, pp. 189–222) shows, culminated with the colonial government constructing a multipurpose reservoir on the Mahanadi River in the 1940s.

Analytically for D’Souza, public works projects, whether embankments or large dams undergirded the logic of colonial rule itself.

... elements such as revenue maximization, commercialization, commodification, or the urgency to extend the agrarian frontier served as strong push factors for transforming prevailing relationships between precolonial society and nature (D’Souza, 2006, p. 6).

Public works projects served to embed capitalist transformation of nature as the general character of colonial rule. D’Souza’s focus, then, is not on infrastructure as such but on their varied uses that served to slowly institute capitalist property relations through commodifying nature.

3 | III

In this section, we turn to recent writings on infrastructure, to show how ideas of governance and difference, plural histories of labour and materiality of space and the environment are three ways of writing new histories of public works projects. Laura Bear suggested that the railways transformed the intimate spaces of governance and created new forms of difference. Aparajita Mukhopadhyay and Ritika Prasad show that the railways were technologies that people consumed, negotiated and contested in their everyday lives. This work, we suggest, opens new avenues for scholars to explore the worlds of work, labour and social difference that emerge around public works projects. Finally, we draw from Debjani Bhattacharya’s work on urban public works projects in the city of Calcutta to suggest that examining the materials that constitute public works, the modification of environments and their relationship to market governance poses new questions for research.

As a forerunner to scholarship showcasing the everyday life of public works projects, Laura Bear (2007) contended against assumptions about the railways resulting in the homogeneity of travel experiences, time and work, which often tended to underplay the persistence of social hierarchies. For instance, Bear shows how a ‘railway caste’ of Anglo-Indian clerical workers emerged in the railway workshop colony of Kharagpur. Similarly, the railways introduced new diseases such as the ‘railway spine’ (Bear, 2007, pp. 5–8, p. 36). Railway housing, compartments, carriages, tickets, time tables’ inspired new publics and languages of claim making, created new hierarchies of race, stratified populations and evolved technologies of rule based on temporal and spatial reorganization. These quotidian encounters with different aspects of the railways, Bear suggests, debunked any idea of the railways as the harbinger of an individualized notion of ‘global citizenship’ (Bear, 2007, p. 18).

Similarly, in arguing for routine histories of the railways, Ritika Prasad (2016) and Aparajita Mukhopadhyay (2018) move away from seductive narratives of speed, connectivity and technological acceleration. These studies position ‘railway space’ and railway travel in crowded and unsanitary railway carriages as the site for protracted debates on race and citizenship. Far from being a yardstick of European expertise and an imperial transposition, technology transfer was constituted through everyday colonial governance, its inscription of cultural difference and the
heterogeneity of native experience and engagement. These new histories examined spaces such as carriages, platforms and kitchens which brought passengers in physical proximity with each other, disrupting existing boundaries of class, caste and gender. By examining the life worlds of ‘third class’ compartments Prasad (2016, Chap. 2) and Mukhopadhyay (2018, Chap. 3) shows how natives experienced and encountered technology through the indignities of travel, including lack of water and sanitation, poor and contaminated food and the psychological and physiological effects of lengthy travel. Furthermore, these quotidian histories of the railways also foreground the relationship between infrastructure and time. For instance, taking the case of railway time schedules, Mukhopadhyay (2018) shows instances of trains running late, native god men manipulating train schedules, frequent breaks and interruptions, all of which were keys in shaping the Indian railways.

Public works projects have been at the forefront of narratives that have been instrumental in questioning the factory centric histories of labour in South Asia. One strand of writing excavated histories of relatively marginalized groups of itinerant labour who circulated across different work sites in search of work, digging tanks, ditches, building roads and railways (Kerr, 2007). While they focussed on the intricate contractual arrangements, coercion and extraction of unpaid labour services by the village elites, another set of writings demonstrated how sites of public works projects had transitioned into testing grounds for workers collective action. In investigating a broad range of acts of resistance, they point to a clear articulation of consciousness by workers in struggles, against their gradual incorporation into the sinews of colonial capitalism (Lucassen, 2006). Road building projects in the 19th century had also become linked to changing ideas about incarceration. Historians studying convict labour have related it to either the state’s economic considerations to employ them or to the 19th century utilitarian ideas about ‘hard labour’ as punishment (Joshi, 2012). In the frontiers and the borderlands of the empire, road building projects were also part of a complex network of practices that included the surveillance, taxation; enumeration and subordination of the hill populations to wage labour (Dzüvichü, 2014).

While notions of free and unfree labour informed debates about public works projects, scholars have also explored the effects of public works projects on occupational groups such as the transport workers (Kerr, 2007; Satya, 1997; Varady, 1979). Kerr argues that during the 19th century, itinerant groups such as the banjaras were involved in the transport of salt and the cattle trade, were categorized as ‘criminal tribes’. Driven away from their occupations and branded as criminal tribes, they found jobs as porters when there was a large scale growth of railways (Weitering, 2007). These shifts in occupations also meant that labouring identities which had been plural and permeable were gradually reified. Building on Ian Kerr’s arguments, we argue that dense accounts of the occupational and caste histories of potters, carpenters, masons, stone workers, mechanics and drillers could also push these ‘forgotten services’ beyond the confines of agrarian or migration studies and colonial sedentarization projects and instead help in aligning them more closely to the history of infrastructure. We further propose histories of how labour occupied infrastructural space, that is, how labourers and accompanying groups such as market vendors made proprietorial claims around public works projects, including dams, ports, canals, mines and roads.

Debjani Bhattacharya’s (2018, p. 7) book, Ecology and Empire, while making a wider argument on the emergence of property as a modern form, also rethinks public works projects as coproduced through technology, ecology and market governance. Using the term ‘infrastructure’ explicitly, Bhattacharya shows how in the mid-19th century, the city of Calcutta saw three major projects built, including the a wet dock, the draining of a swamp and in its place a maidan (field or park) and a network of canals to transport the drained water out of the city (Bhattacharyya, 2018, p. 141). While all of these projects had antecedents, they fructified in the mid-19th century when the Company State and later the British Government took a greater role in reshaping urban space. While premised on the soaked and seasonal ecologies of Calcutta, changes allowed the government to manage ‘these circuits of private capital in the name of public goods, whose benefits and profits went to the colonial coffers’ (Bhattacharyya, 2018, p. 165). Conceptualizing these public works projects as infrastructure allows Bhattacharya (2018, p. 148) not to take ‘public’ as a taken for granted concept, with the state as the only actor and more importantly foreground changes that such projects introduced within physical city space, fictive value and economic life.
Together, these studies point to the importance of understanding public works projects beyond effecting spatial transformations. Rather, in treating them as infrastructures, to be examined as projects rather than subsumed within categories such as the nation, several new possibilities emerge. This essay has argued that (1) examining infrastructures such as the railways shows how public works projects shaped social life, such as caste, travel and time, (2) how infrastructures are ‘sites’ to study labouring groups, and their ability to forge space and life through living and dwelling around such projects and (3) how infrastructure projects shape and are shaped by ecology and the environment and their consequent imbrication in the markets.

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ENDNOTE

1 There is a far more sophisticated literature on canals and tanks in colonial India. However, this emerged much later, and did not focus on the public works project, so much as the political fallouts and contests over the same.

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