

**Debjani Bhattacharyya.** *Empire and Ecology in the Bengal Delta: The Making of Calcutta.* Studies in Environment and History Series. Cambridge: Cambridge University Press, 2018. Illustrations, maps. 254 pp. \$99.99, cloth, ISBN 978-1-108-42574-2.

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Debjani Bhattacharyya has written an extremely ambitious book that radically expands the boundaries of the genre of city biographies, a genre that has already led, over the last couple of decades, to a productive intertwining of urban and environmental history, enriched here by a solid contribution from both legal history and the history of science.[1] In this volume, the legal framework plays, in fact, a lion's share in putting the city and its environment into a conversation, while acting as a space in which opposing epistemologies, different ontologies, and economic interests interact. Bhattacharyya builds on the idea that property, law, and legislation can, and actually have to, be read and understood as technologies that are effectively able to produce environments. This approach has allowed her to craft an enticing account of how the creation of the land on which the city of Kolkata lies needed not only a material effort but also a thorough reconceptualization of the distinction between land, sea, and river.

In her own words, the book focuses on a few select "moments of breakdown in the colonial legal logic, economic rationale and technological projects" (p. 36). To showcase them, the book is organized in five chapters, spread over three parts and framed by an introduction and a conclusion. In the introduction, Bhattacharyya hints to the

need, to fully understand and appreciate the region's mobile geographies, to adopt new paradigms to represent them. Instead of the hard boundaries overimposed by cartographic tradition, she suggests to move back to the descriptive and narrative format of the almanac. The latter lends itself more easily to incorporate the innate variability of tidal landscapes. In her work, Bhattacharyya approaches land as a dynamic element rather than the static background to colonial rule that it has typically been presented as. In doing so, she reacts to a form of historical amnesia, according to which the inherent mobility of landscapes tends to be forgotten in face of infrastructural and ideological developments.

Part 1 sets the framework in which later events take place and pays particular attention to the ways the scientific understanding of the region in the early years of colonial rule affected its legal framing, in particular related to property. As the East India Company consolidated its control of the area, it increasingly needed ways to read and interpret the territory in and around Kolkata. It needed, in other words, to foster the development of the science of the delta as a way to enforce a new legal understanding of an unusual and unknown territory. These early inquiries would frame how the region was managed and governed over

decades into the future. This is probably the book's most interesting section for the historian of science and technology.

At the core of chapter 1 lies, for instance, the issue of how scientific knowledge translates, if at all, into law, a matter of continued relevance nowadays. To explore it, the author delves into an analysis of court debates about the viability of one or the other interpretation of the area's geology. Cherry-picked geological theories and examples were offered to the courts by practitioners and theorists alike in the attempt to influence their decisions. Chapter 2 turns the reader's attention to the legal and infrastructural issues caused by the ecological and legal peculiarities of the region's "dynamic sedimentation" (p. 79). To assess this, colonial officers applied knowledge produced in the metropolis to new locales without a second thought to local observations. Crucial was the issue of who owned stretches of land that appeared overnight and could disappear as suddenly. This was eminently a matter of formal definitions and rights, which ended up being addressed through legal technologies rather than by work-intensive draining projects. As Bhattacharyya notes, "ecological differences opened up a space for legal exceptionalism within property laws in the empire" (p. 80). Drying a landscape was, thus, not only an infrastructural project but also an "ontological endeavor" aimed at (re)producing the culture characteristic of dry spaces (p. 83).

In part 2, Bhattacharyya continues in her analysis of the "legal maneuvers" adopted to make the Bengal Delta into land and redefine property rights and systems of legal relationships, moving way beyond their connection to the sciences. In chapter 3, she focuses, for instance, on the ontological issue of the property rights of deities and shows how these ended up being enforced within courts of law. The affective was, in a way, included in the legal. Furthermore, the author stresses the inherent limits of cartography and its role in transforming dynamic processes in permanent

markers. Maps, in fact, can only be produced by freezing moments in time. In doing so, cartography artificially creates hard lines that become part of common thinking. In the specific case of the Bengal Delta, "cartographic techniques fail to depict the temporality that defines land-water relations" (p. 116). Chapter 4 looks instead at the centrality of conflict in the development of commercial real estate in the region and the processes by which swamps were transformed "literally into speculative properties" (p. 157). Moreover, Bhattacharyya notes how through the nineteenth century the rapid increase in infrastructure posed new challenges. In fact, while traditional dirt roads could appear and disappear at almost no cost following frequent changes in the tidal landscape, railtracks need to be secured against the possibility of flooding. The infrastructural development of the region promoted thus a never-ending search for watershed moments that might be used as baselines. Railtracks, however, as social and cultural products, provide only a very fleeting sense of stability, constantly overrun by the dynamic nature of the delta and the territory's ingrained variability.[2]

*Empire and Ecology in the Bengal Delta* closes with a final chapter dedicated to land and property speculation through the twentieth century, which offers also interesting insight into the history of actuarial sciences and the determination and management of rent prices. The conclusions finally wrap up the book, reasserting once more how, in the creation of contemporary Kolkata, law and infrastructure have worked at the same pace. This is an intriguing book that deserves to be read widely, well beyond the geographical constraints of its case studies and the boundaries of academic fields. It acts, in fact, as an interdisciplinary blueprint to understand how definitions and concepts not only are based on science but are necessarily framed also by the legal system within which they exist. It contributes in this sense to the broader debate about the social construction of knowledge sys-

tems and offers brand new methodologies to approach its analysis.

#### Notes

[1]. For a recent introduction to the field of urban biographies, see Jaroslav Ira, “Rethinking the Genre: Urban Biographies as Means of Creating Critical Public Spheres,” *Urban History* (2019): 1–17, <https://doi.org/10.1017/S0963926819001123>. See also Martin V. Melosi, “The Place of the City in Environmental History,” *Environmental History Review* 17, no. 1 (1993): 1–23, <https://doi.org/10.2307/3984888>.

[2]. Sebastián Ureta, Thomas Lekan, and Wilko Graf von Hardenberg, “Baselining Nature: An Introduction,” *Environment and Planning E: Nature and Space* 3, no. 1 (January 6, 2020): 3–19, <https://doi.org/10.1177/2514848619898092>.

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