Law and History Review (2022), **40**, 561–578
doi:10.1017/S0738248022000396

ASLH AMERICAN SOCIETY FOR LEGAL HISTORY
CAMBRIDGE UNIVERSITY PRESS

ORIGINAL ARTICLE

Making Maritime Boundaries in the Bay of Bengal

Kalyani Ramnath

Harvard University, Cambridge, Massachusetts
E-mail: kal.ramnath@gmail.com

In a wood-paneled room at the Permanent Court of Arbitration at The Hague in 2013, lawyers, law professors, and representatives of governments in suits sat around a table, peering closely at two images projected side by side on their screens. These blurry images marked in shades of blue were snapshots of satellite images of the northern Bay of Bengal, representing the coastline of India, Bangladesh, and Myanmar. The viewers likely focused their attention on the differences between the two images: a splotch of red-brown land in one that was absent in the other. These differences were meant to indicate the presence or absence of an island and would color the legal arguments made by the parties to the arbitration, set up to determine the maritime boundaries between India and Bangladesh, and consequently to partition access to the marine and submarine resources of the Bay.[1]

At the Hague, arbitrators, governments, legal and scientific experts considered the Bay of Bengal through visualizations like the satellite images in Figure 1 while delimiting—drawing—maritime boundaries. In this process of determining boundaries between states, unsurprisingly, land and river boundaries drawn during the territorial partition of India and Pakistan in 1947 flickered into view. The shifting coastlines and seemingly ephemeral shores of the Bay posed a challenge to this process. In this essay, I explore how these visualizations recall earlier attempts to adjudicate claims to the ocean where coastlines shifted, changed, or disappeared. Colonial-era revenue surveys, sketches of land and river boundaries, nautical charts, and contemporary satellite images of the Bay are often layered on top of one another, mirroring how

[1] Maritime boundary disputes may be settled through bilateral negotiation, adjudication at the International Court of Justice, or third party arbitration at fora like the Permanent Court of Arbitration. The submissions in the Bay of Bengal Maritime Boundary Arbitration between Bangladesh and India before the Permanent Court of Arbitration are available at https://pca-cpa.org/en/cases/18/. The governments of Bangladesh and Myanmar participated in dispute settlement before the International Tribunal for the Law of the Sea at Hamburg in a dispute over maritime boundary delimitation concerning the northern Bay just prior to the Hague arbitration. The issues were similar in both cases. https://www.itlos.org/en/main/cases/list-of-cases/case-no-16/ (accessed September 17, 2022).

© The Author(s), 2022. Published by Cambridge University Press on behalf of the American Society for Legal History.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

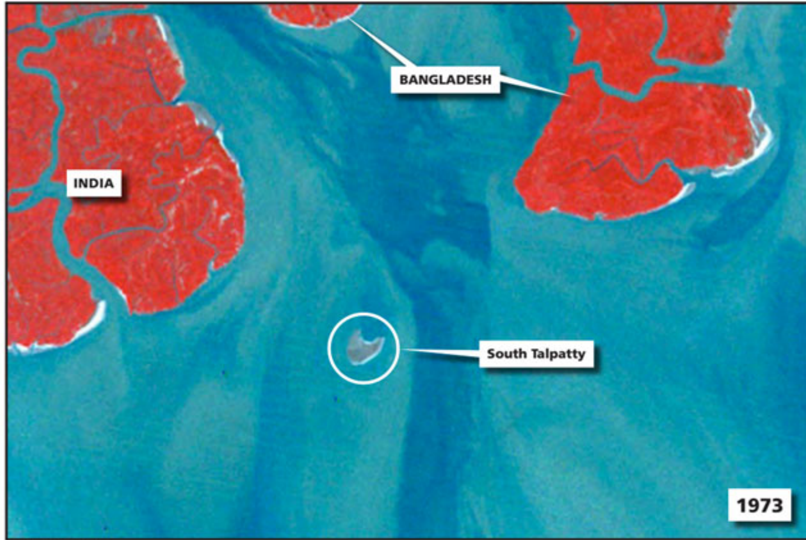


Figure 1. Satellite imagery of South Talpatty (Memorial of Bangladesh, Volume II. PCA Web site, http://www.pcacases.com/pcadocs/Bangladesh_Memorial_Vol_II.pdf. Note: The images in this article were reproduced only for the purposes of this article. The Permanent Court of Arbitration is the copyright holder.

legal arguments were framed to establish titles and boundaries to ephemeral land and sea boundaries, either to fulfill international legal standards or to carve out exceptions to it. Complementing Yannakakis's essay on boundary

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

making in this Forum, this essay explores visualizations in maritime boundary disputes as an example of everyday materials employed to determine space *in* law; in this case, in service of what Surabhi Ranganathan eloquently terms the "extractive imaginary" of the international law of the sea.[2] Exploring this lesser-known history of how visualizations were employed in instances of shifting land–sea boundaries acquires significance, as rising sea levels make shifting coastlines norms rather than exceptions, and disappearing island states attempt to fix maritime entitlements in the face of climate change.

An Imperial Ellipsis

The contests among European powers over trade, commerce, and territorial control in the Bay of Bengal took place as much in the depictions of sixteenth- and seventeenth-century artists, illustrators, and cartographers as they did on the seas and shores of the Bay.[3] Fifteenth-century depictions of the Bay, such as the one from the Harley Manuscripts Collection in the British Library from Ptolemy's *Geography* (Figure 2) show a yellow sea instead of the ocean blue, studded with islands where rivers emptied into the ocean. In sixteenth-century maps of the Bay of Bengal drawn and circulated by the Portuguese and the Dutch, including the *Seconda Tavola*, the Golfo de Bengala was bordered by coastal towns where their trading settlements or factories were located, often near the mouths of rivers like the Ganga and the Brahmaputra and their estuaries. It depicted an ellipsis of port cities, stretching from Zeilan (Ceylon, present-day Sri Lanka) to Porto Pequeno (later, Satgaon) to Sumatra and the Moluccas, reflecting the sail winds and seafaring routes of the European trading companies across the Bay. Later maps, following the Dutch East India Company's economic interests in the rice and slave trade from Bengal to Batavia, were largely derived from Portuguese commercial and navigational circuits around the Indian subcontinent. With few details of towns or the hinterland, the cartographic view was that of a ship looking onto the land.

As historians of cartography have shown, these maps represented commercial interest that drew extensively on indigenous practices but were primarily for use and circulation in metropolitan centers in Europe.[4] As Kate Miles

[2] Surabhi Ranganathan, "Ocean floor grab: International law and the making of an extractive imaginary," *European Journal of International Law* 30 (2019): 573–600.

[3] Navigational charts, seafaring pilots, and manuals for the coasting trade between the kingdoms on the Bay's littoral likely existed in both oral and documentary form prior to European attempts. Maps attributed to European seafaring nations significantly draw on Arab, Chinese, Javanese, and Malay navigational and trading expertise. See Gerald Tibbetts, "The Role of Charts in Islamic Navigation in the Indian Ocean," in *The History of Cartography*, Vol. II, Book 1, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1992); Samira Sheikh, "A Gujarati Map and Pilot Book of the Indian Ocean, c.1750," *Imago Mundi* 61 (2009): 67–83. For an account of how *dhow* captains submitted petitions describing their own oceanic imaginations to France and Great Britain in the Muscat Dhows case (1905) before the Permanent Court of Arbitration, see Fahad Ahmad Bishara, "'No Country but the Ocean': Reading International Law from the Deck of an Indian Ocean Dhow, ca. 1900," *Comparative Studies in Society and History* 60 (2018): 338–66.

[4] Sujit Sivasundaram, *Waves Across the South: A New History of Revolution and Empire* (Chicago: University of Chicago Press, 2021); and Sumathi Ramaswamy, "The Work of Vision in the Age of

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

Figure 2. Map of the Bay of Bengal from Ptolemy's Geography, British Library, Harley Ms. 7195, f.102v (image is in the public domain).

discusses in her study of *Insulae Moluccae*, a sixteenth-century map of the "Spice Islands," the role of maps solely as evidence in international law sidesteps the initial intention with which they were produced: to attract private investment for the overseas seaborne trade of the early Portuguese and Dutch trading companies.[5] As Grotius's well-known discussion of the freedom of the seas as a legal brief for the Verenigde Oostindische Compagnie (VOC) against the Portuguese in the context of the capture of the *Santa Catarina* in the eastern Indian Ocean demonstrates, and as Miles underscores, international law emerged as a scaffolding to protect these investments, and maps were used to depict possession and property in land. They were much less important or accurate as a record and document. Alongside Grotius's legal arguments, maps and mapmakers also played an important role in the diplomatic negotiations between Portugal and Spain over their possessions in the Indian Ocean, culminating in the Treaty of Saragasso in 1529, which relinquished control of the Moluccas to Portugal, and which led to their eventually gaining a foothold in the eastern Indian Ocean and beyond.[6] A history of international law cannot be narrated without mentioning the earliest European colonization of present-day South and Southeast Asia and the central role that maps played in establishing possession over islands and archipelagic states there.[7]

European Empires," in *Empires of Vision: A Reader*, ed. Martin Jay and Sumathi Ramaswamy (Durham and London: Duke University Press, 2014).

[5] Kate Miles, "*Insulae Moluccae*: Map of the Spice Islands, 1594," in *International Law's Objects* (Oxford: Oxford University Press, 2018), 247–58.

[6] See Tamar Herzog, *Frontiers of Possession: Spain and Portugal in Europe and the Americas* (Cambridge, MA: Harvard University Press, 2015), 17–20.

[7] This argument was made—perhaps most influentially—by Antony Anghie in *Imperialism, Sovereignty, and the Making of International Law* (Cambridge: Cambridge University Press, 2007) and

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

This history of how international law sees, acknowledges, and fixes sovereignty at the edges of empires through artwork, illustration, and cartography resonates in twenty-first-century maritime boundary delimitation disputes in the Bay of Bengal. As the principle of freedom of the seas intersected with imperial contests in the Indian Ocean in the eighteenth and nineteenth centuries, it became necessary visualize not only space, but also distance from the shore.[8] Whereas maritime navigation depended on the minute observations about waves or the weather, parties to colonial-era maritime disputes faced the challenge not only of depicting, but also of measuring and apportioning ocean space, closer to the shore in the form of "territorial waters," and as laws of the sea were codified, further out into ocean, even as coastlines were constantly shifting. This ephemerality could not be reflected with any accuracy in maps or similar visualizations that were the staple of boundary disputes. In the rest of this essay, fragments from colonial-era litigation in British India suggest another account, one in which the ephemeral nature of the Bay's coasts was acknowledged, leading to challenges in its measurement and depiction.

Fluid: Rivers, Seas, and Islands

In the sixteenth-century maps just discussed, riverine and marine islands in the Bay of Bengal were objects of interest, both as aids in the discovery of abundant spices, as well as navigational aids, given their potential to cause shipwrecks and monetary losses. By the late eighteenth century, the English East India Company had firmly established its military and maritime presence at Fort William in Calcutta on the banks of the river Hooghly. The Himalayan rivers Ganga and Brahmaputra as well as their tributaries and estuaries that empty into the Bay of Bengal have frequently changed course, slowed down, and annually deposited more than 4,000,000 tons of sediment at their mouth, and on the seabed. The Sunderbans—the marshes and mangroves at the head of the Bay in the delta of these rivers featured ephemeral mudbanks and islands—was rapidly subject to the revenue mapping and surveying to support these imperial ambitions.[9]

These geographical and geological features made for a shifting coastline, which posed a challenge in the context of legal disputes. It challenged the notion in international law that rivers formed "natural" and fixed international boundaries between states.[10] As Debjani Bhattacharyya, Iftekhar Iqbal, and Arupjyoti Saikia have shown, *chars*—the riverine islands formed in this process—are integral to the economic and social life of the Bengal delta where the Sunderbans is located, but they are/were notoriously difficult to survey,

in the context of the law of the sea, by Ram Prakash Anand, *The Origin and Development of the Law of the Sea: History of International Law Revisited* (The Hague: Martinus Nijhoff Publishers, 1983).

[8] Anand, *The Origin and Development of the Law of the Sea.*

[9] Ananda Bhattacharyya, ed., *Frederick Eden Pargiter: A Revenue History of the Sundarbans from 1765 to 1870* (London: Routledge, 2019).

[10] Karin Mickelson, "The Maps of International Law: Perceptions of Nature in the Classification of Territory," *Leiden Journal of International Law* 27 (2014): 621–39 (noting that the delimitation of maritime zones presents a limiting case for international law doctrines of *terra nullius*, *res communis* and the "common heritage of mankind").

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

record, and depict.[11] The mutability of these riverine islands—their sudden appearance, and their sometimes-unexplained disappearance—posed a particular problem in the context of Colonial-Era legal disputes.

Law reports from nineteenth century India as well as records of the Judicial Committee of the Privy Council at the British Library in London note how the change in courses of rivers in the Bengal delta led to disputes over property and taxation that were litigated all the way up to the highest court of appeal in the British Empire.[12] Given the many years that property disputes took to wind their way through the legal system, it was quite likely that the rivers changed course from when the cases were first filed, and indeed, this was a point of contention in many cases. Antonia Moon describes some landscape sketches accompanying lawsuits dealing with the change in rivers courses as "composites," with layers of "old" and "new" land shaded on top of each other. The revenue survey maps and sketches that accompanied these legal filings, as a form of documentation but also as a visual representation of jurisdictional claims that were necessarily shifting over time.

According to Lal Mohun Doss, a *vakil* of the High Court at Calcutta and a professor of law and legal commentator whose opinions Bhattacharyya discusses, if the riverine islands or *chars* were only visible during the dry season, they were treated as public property that belonged to the government; if not, they were treated as private and appended to the land closest to it.[13] By the time Doss, who leveraged an extensive knowledge of Roman law as well as English and American precedents, delivered his Tagore Law Lectures in the late nineteenth century, the revenue to be derived from "making" land and establishing ownership in the Sunderbans became so critical to the fortunes of the British Empire, that specific legislation was in place for property rights to be exercised over islands formed by accretion and alluvial deposit. Beyond outlining who had a right to riverine islands, commentators like Doss also discussed in detail how dividing ephemeral land made and unmade by silt and sediment depended on highly technical methods of measurement and geometric representation: through lines, arcs of angles, chords, and parabolas.[14] For example, referring to rules framed in 1881 regarding the methods of measurement about alluvial

[11] Debjani Bhattacharyya, *Empire and Ecology in the Bengal Delta: The Making of Calcutta* (Cambridge: Cambridge University Press, 2018); Iftekhar Iqbal, *The Bengal Delta: Ecology, State and Social Change, 1840–1943* (London and New York: Palgrave Macmillan, 2010); and Arupjyoti Saikia, *The Unquiet River: A Biography of the Brahmaputra* (Oxford: Oxford University Press, 2019). See also Nitin Sinha, "Fluvial Landscape and the State: Property and the Gangetic Diaras in Colonial India, 1790s-1890s," *Environment and History* 20 (2014): 209–37; and Erica Mukherjee, "The Impermanent Settlement: Bengal's Riparian Landscape, 1793–1846," *South Asian Studies* 36 (2020): 20–31. Kuntala Lahiri-Dutt and Gopa Samanta show, even today, that the *choruas* (char-dwellers) resist being classed as citizens of one country or the other, resisting attempts at a fixed national identity. Kuntala Lahiri-Dutt and Gopa Samanta, *Dancing with the River: People and Life on the Chars of South Asia* (New Haven: Yale University Press, 2013).

[12] Antonia Moon, "Landscape in Law," https://blogs.bl.uk/untoldlives/2021/09/landscape-in-law.html (accessed September 17, 2022).

[13] Lal Mohun Doss, *The Law of Riparian Rights, Alluvion and Fishery. With Introductory Lectures on the Rights of Littoral States over the Open Sea, Territorial Waters, Bays and the Rights of the Crown and the Littoral Proprietors Respectively over the Fore-Shore of the Sea* (Calcutta: Thacker, Spink and Co, 1889).

[14] Ibid., 19.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

accretion that apportioned rights on the basis of proximity to new land, Doss noted that while ". . . they possess the additional advantage of being workable in practice without the aid of accurate scientific instruments," they did not take into account "equitable considerations" whereby the complex drawing of lines and angles could cut one of the landowners off from riparian rights.[15] Doss appears to have been prescient about considerations of equity as much as about precision in measuring ephemeral coasts and foreshores.

In his lectures, Doss devoted much more attention to rivers than to seas as the focus of most litigation in British Indian courts, although he noted that principles were derived from the same principles of property in Roman law. Drawing from a corpus of European jurists' scholarship, he noted that a distance of three nautical miles from the low-water mark was a marine "league," drawing from the understanding that a littoral state would able to defend this distance of territorial or jurisdictional waters with an "armed fleet."[16] In contrast to the elaborate methods of measuring riverine land, there was no mention of how these miles would be measured, although marine surveys had been being commissioned by the English East India Company in Madras and Bengal since the late eighteenth century.[17] Nevertheless, this extent of territorial waters was not disputed by colonial governments in the authorities whom Doss cited.

This juridical distinction between riverine and marine environments was the main legal issue in offenses involving fisheries under the Indian Penal Code, 1860. In the case of *R* v. *Kastya Rama*,[18] the Bombay High Court considered the question of whether the Code applied to a dispute between fishers belonging to two seaside villages, who had traditionally fished off the Konkan coast in the Western Indian Ocean. One night, one group of villagers ventured out in boats, and pulled up the fishing stakes that the other had ostensibly erected.[19] The question at hand was whether the offenses of "mischief" and "unlawful assembly" had been committed within the "territory" of British India as defined under the Indian Penal Code. The Bombay High Court ruled that "territory" included "territorial waters," one marine league from the shore, and that the villagers were subject to British Indian criminal law. Beyond this distance, where the "territorial waters" ended and the "high seas" began, English law and admiralty jurisdiction would apply.

[15] Ibid., 191–92.

[16] Ibid., 8.

[17] Bhattacharya, *Empire and Ecology in the Bengal Delta*, 45–76; and S. Prashant Kumar, "The Instrumental Brahmin and the 'Half-Caste' Computer: Astronomy and Colonial Rule in Madras, 1791–1835," *History of Science* (2022). https://doi.org/10.1177/00732753221090435 (accessed September 17, 2022).

[18] 8 Bom. 63 (September 20, 1871), also available in *The Handbook of Criminal Cases Reprinted Verbatim in the Bombay High Court Reports*, Vols. I to XII (Calcutta: DE Cranenburgh, 1889), 328–45.

[19] On fishing rights, territory, and international law in the context of claims to sovereignty between the princely state of Cochin and British India, see Devika Shankar, "A Slippery Sovereignty: International Law and the Development of British Cochin," *Comparative Studies in Society and History* 64 (2022): 820–44.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

Doss, reflecting the opinion of the judges in *Kastya Rama*, also dismissed any notion that these measurements and entitlements to maritime space per British law would take customary fishing rights into account.[20] Judging from the place names in the judgment—Manori and Malavni—this dispute about fishing stakes likely began as a dispute about customary fishing rights, one that had been "resolved" in 1865 by *mamlatdar* or the head of the revenue administration in Salsette by awarding rights to the villagers of Manori. The presiding judge noted that the *mamlatdar* had no jurisdiction over sea fisheries; although Salsette comprised a group of small islets, tidal flats, and mudbanks, on which *The Imperial Gazetteer of India* noted in 1885, "there were no large fresh-water streams."[21] The distinction between river, sea, and island was of consequence in demarcating the revenue and judicial functions of colonial administrators, but here too, it was a matter of estimation rather than precise measurement.

By 1878, the Territorial Waters Jurisdiction Act in England and by 1897, the Indian Fisheries Act codified the definition of "territorial waters" as being one marine league or 3 miles from the coast, widely then adopted for the purposes of other legislation. Three miles was not a random number, but not one that was based in military folklore rather than fact; rather, it was one frequently attributed to be the range of artillery guns from the shore, when delineating space on the foreshore of the sea was a matter of security.[22] But there were exceptions. Col. H.S. Thomas of the Madras Civil Service, who had an encyclopedic knowledge of fisheries and fishing and circulated the first draft Indian Fisheries Bill in 1888–89, carved out exceptions for the pearl and chank fisheries, and oyster beds off the coast of Madras, in the Gulf of Mannar.[23] Tamara Fernando shows how the regulations passed for the neighboring crown colony of Ceylon in 1811 and 1843 extended their jurisdictional waters to 12 miles off the coast in order to protect the rights of the crown in the pearl and chank fisheries, a numerical anomaly at a time when 3 miles was more common. As Fernando shows, this distance was deliberately chosen because it stretched up until the farthest *paar* or island the Ceylon pearl fishery from the coast.[24] Thomas believed that British India should follow the example set by Ceylon. Indeed, if such an exception were not carved out, wrote Thomas in his report accompanying the bill to the colonial administrators in Madras, that anyone fishing the pearl and chank beds off the coast privately could escape with their bounty to Karikal or Pondicherry, territories that belonged to the

[20] There is a wealth of scholarship on customary fishing rights in colonial India's coastal communities. On the leveraging of legal language by fishers on India's southeastern coast, see Ajantha Subramanian, *Shorelines: Space and Rights in South India* (Stanford: Stanford University Press, 2009).

[21] William Wilson Hunter, *The Imperial Gazetteer of India, Volume 12*, 1885, 169.

[22] For a discussion of the three nautical mile limit, see Anand, *The Origin and Development of the Law of the Sea*, 138–40.

[23] Mr. Thomas' Draft Fisheries Bill, Proceedings of the Revenue and Agricultural Department, January 1889, National Archives of India.

[24] Tamara Fernando, "Of Mollusks and Men: Pearling Labour and Environments in the northern Indian Ocean 1880–1925" (unpublished PhD diss., University of Cambridge, 2022).

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

French at close quarters to Madras, without any revenue accruing to the British government in Madras.[25]

Thomas' other concern was closer home—about the rights of private landowners in and beyond the territorial waters, specifically, the rights of the Raja of Ramnad. In 1904, a lessee ("Annakumaru Pillai") of the Raja of Ramnad, a nineteenth-century *zamindar* in Madras accused "Muthupayal" of stealing chanks from the seabed of the Gulf of Mannar. Pillai claimed that his exclusive rights derived from the Raja's customary and hereditary rights to the chank fisheries in the Gulf. At the Madras High Court, the judges considered whether chanks (which had significant economic and religious significance in South Asia) removed from the seabed more than one marine league from the coast could be considered property—and therefore the subject of the offence of theft—under the Indian Penal Code, 1860. Describing the Gulf of Mannar as enclosed waters marked off from the Bay of Bengal by shoals, rocks, and the coasts of India and Ceylon and therefore as territorial waters beyond the 3-mile limit, and chanks as "fixed" and not *ferrae naturae* as fishes were, the court ruled that chanks could be thieved as they were considered "property," even if they were located more than one marine league off the coast of India.[26] In a subsequent report, the government of Madras made sure to underscore that the Raja of Ramnad's rights were not to the ownership of the shoals themselves, but merely to rent out the chank fisheries.[27]

Both *Kastya Rama* and *Muthupayal* were later considered by scholars of international law as evidence of state practice on the question of "territorial waters," demonstrating a growing interest in depicting sea spaces with precision in the context of legal disputes.[28] Underlying this shift was an interest in growing government revenue. If the Bombay High Court in 1871 wanted to restrict the jurisdiction of the *mamlatdar* over the sea fishery, the judges in the *Muthupayal* case at the Madras High Court in 1904 were keen to extend the rights to the seabed and to the chank fisheries to the twelve-mile limit, the *zamindari* of Ramnad being an important source of revenue to the government in Madras. Quoting from Thomas's report, the judges noted that: "Our chank fisheries are worth to the Government from four to five times as much as our pearl fisheries and may it be said, easily be raised to half the present value of the Ceylon pearl fisheries."[29] Following the decision in *Muthupayal*, and relying on nautical charts, revenue inspection reports, and sketches of the pearl banks and chank beds in the Gulf of Mannar that were described as "incomplete," and deriding the local fisher communities who had engaged in diving for pearls and chanks for being unreliable in their nautical knowledge, the Madras government prepared to extend

[25] Thomas, Draft Fisheries Bill.

[26] *Annakumaru Pillai* v. *Muthupayal* (1904) 14 MLJ 248 (MLJ = Madras Law Journal); on fishes and the principle of *ferrae naturae* in British Indian jurisprudence, see *The Calcutta Weekly Notes*, 1905, 110–11.

[27] James Hornell, *Report of the Government of Madras on the Indian Pearl Fisheries in the Gulf of Mannar* (Madras: Superintendent, Government Press, 1905), 43–44. See also Appendix C in the Hornell report discussing the inferior rights of the Raja of Ramnad to the English East India Company, "the Lord of the Sea and the Bays."

[28] Mani, ibid.; *International Law Reports: Volume 90* (Cambridge University Press, 1992), 221–222.

[29] *Muthupayal*, ibid.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

its sovereignty farther out to sea, making up for perceived unreliable and imprecise measurements of nautical distances through precise calculations of potential revenue (see Figure 3 for an example).[30]

With the decision of the Privy Council in *The Secretary of State for India in Council* v. *Sri Raja Chelikani Rama Rao*,[31] the challenges to surveys posed by ephemeral land and sea were further considered, as the notion of "territorial waters" gained traction. A dispute between two *zamindars* over islands—*lankas*—formed as a result of sediments deposited by the river Godavari into the Bay of Bengal grew into a confrontation with the colonial administration when the latter sought to declare the marshy mangroves at the river's mouth a "reserve forest" subject to government control. The two *zamindaris* opposed the ruling of the forest settlement officer, who had identified these offshore islands for conservation and as government property. In their ruling, the privy councillors described *lanka* in dispute not as a riverine island, but as an island that was formed *de novo* in the seabed. This, the judges unquestionably declared, was the property of the British crown, unless the *zamindars* were able to prove adverse possession for at least 60 years.[32] Although disputes over *lankas* in the Godavari delta were common throughout the nineteenth century, they were often settled—as the Bengal cases were—on the question of riparian rights. By describing it as an island that was formed in the seabed rather than at the mouth of a river, the case of this *lanka* was marked differently.[33]

A large colored plan of the Godavari delta measuring 95 centimeters by 118 centimeters accompanied the case papers, authorized by the Madras Survey office (see Figure 4). The plan accompanied nautical charts and revenue survey maps and was ostensibly prepared for the judicial proceedings in London, given its elaborate watercolor tint, legend, and notations indicating the litigation history. In the bottom left corner stands a lighthouse, giving context to the government's jurisdictional claim that the island was out at sea. Settlements are marked further inland, and the *lankas* themselves are relatively uninhabited and densely forested, suitable for occupation—and indeed, conservation—by the colonial government.[34]

Fixed: The Radcliffe Sketch and the Ramnad Zamindari

As prospecting for marine and submarine resources in India began in earnest in the 1960s and 1970s, so did the shifting geopolitics of the region. Following postwar developments in the developing law of the sea conventions, efforts to

[30] James Hornell, *Report of the Government of Madras on the Indian Pearl Fisheries in the Gulf of Mannar* (Madras: Superintendent, Government Press, 1905).

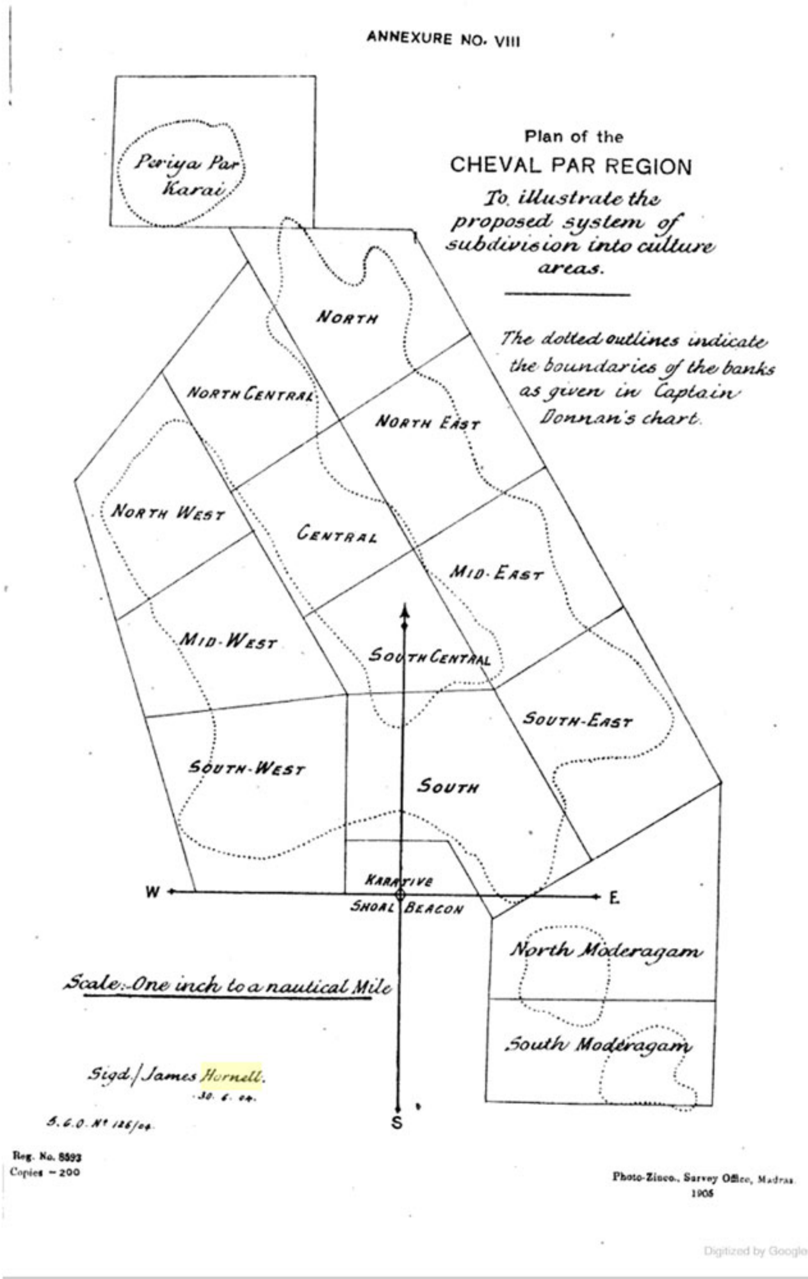
[31] (1916) UKPC 58 (July 7, 1916).

[32] See, for example, *Sri Balsu Ramalakshmamma* v. *The Collector of Godeveri District* (1899) UKPC 23 (March 24, 1899).

[33] For a discussion of the *Raja Chelikani Rama Rao* case relative to the Mississippi Delta, see V.S. Mani, "India's Maritime Zones and International Law: A Preliminary Inquiry," *Journal of the Indian Law Institute* 21 (July–September 1979): 336–81.

[34] For the British Indian government's engineering interventions in the Godavari delta, see Sunil Amrith, *Unruly Waters: How Mountain Rivers and Monsoons Have Shaped South Asia's History* (New York: Basic Books, 2018).

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press



Digitized by Google

Figure 3. Appendix from Hornell's Report, showing proposed plan to survey pearl banks off of the Madras coast.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

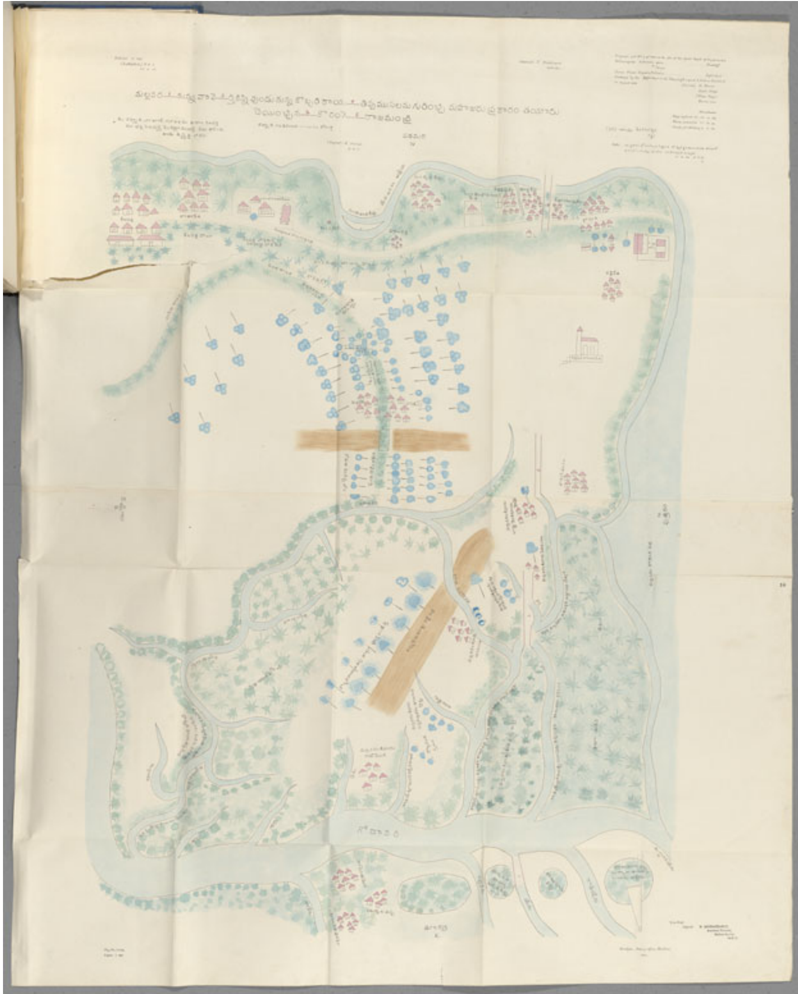


Figure 4. Portion of the colored plan in *Raja Chelikani Rao*, India Office Records, IOR/L/L/ Box 391 No 1487, p.16. Reproduced with the permission of the British Library, London.

delimit maritime boundaries around the Bay of Bengal began with maritime zone legislation, diplomatic negotiations, and meetings between heads of states.[35] By 2013, when the arbitral tribunal was convened at The Hague, the maritime boundary dispute between India and Bangladesh had been—like

[35] Like the diplomatic negotiations with Bangladesh in the 1970s, the negotiations between India and Sri Lanka also took place in the shadow of the maritime boundary delimitation between India and Pakistan about the Rann of Kutch, a salty marshland adjoining the Thar desert. See R.P. Anand, "The Kutch Award," *India Quarterly* 24 (1968): 183–212.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

others in the Bay of Bengal region—four decades in the making. Maps and satellite images were central to partitioning the ocean.

Following customary and codified laws of the sea, this point between land and sea was known as the "land boundary terminus" and it determined the extent of the "territorial sea" available to each country, over which it had sovereign rights as it did over land.[36] Islands near shore would alter the "base" points, and a significant geological formation or "maritime feature" farther from the shore out to the sea would give that littoral state a greater number of the marine resources in the territorial sea.[37] Islands were not only geomorphological features, but anchored claims to sovereignty. Here, maps, sketches, and satellite images were thus a visual assertion of jurisdictional claims.[38]

As the account of Colonial-Era litigation about the methods and measurements of determining boundaries of rivers, seas, and islands shows, delimiting borders on land and at sea in international law were closely linked. According to the principle of *uti posseditis* in international law, Colonial-Era boundaries were deemed postcolonial borders, ostensibly recognized to reduce chaos and disorder during political transitions. This principle, which began with administrative practices at the end of Spanish rule in nineteenth-century Latin America, was also applied in mid twentieth-century South Asia during decolonization.[39] In contrast, although maritime boundary delimitation processes recognized, both in customary international law and in treaties on the law of the sea, geographical instability and dynamic coastlines, determining the "land boundary terminus" brought these legal principles underlying postcolonial boundaries and the fixity of land and river boundaries back in. The "island" of South Talpatty/New Moore—claimed by both India and Bangladesh and discussed at the beginning of this essay—was at the center of one such dispute.

Because of the association between maps, decolonization, and recognition of sovereignty in international law, the agents for India and Bangladesh turned to what was referred to as the "Radcliffe sketch" instead of the methods and measurements used to delineate ephemeral land and sea spaces. More than any

[36] Surabhi Ranganathan, "Decolonization and International Law: Putting the Ocean on the Map," *Journal of the History of International Law* 23 (2020): 161–83. For a discussion of land–sea regimes rather than distinct land and sea regimes, see Nathan Perl-Rosenthal and Lauren Benton, "Land-Sea Regimes in World History," in *A World at Sea: Maritime Practices and Global History*, ed. Lauren Benton and Nathan Perl-Rosenthal (Philadelphia: University of Pennsylvania Press, 2020), 186–92; Renisa Mawani, *Oceans of Law* (Durham, NC: Duke University Press, 2018).

[37] Article 7 (1), United Nations Convention on the Law of the Sea.

[38] Burkina Faso/Mali (1986, International Court of Justice). See Vasuki Nesiah, "Placing International Law: White Spaces on a Map," *Leiden Journal of International Law* 16 (2003): 1–35, for a discussion of the ambiguous role of cartographic evidence as reflecting the tension between self-determination and decolonization in international law.

[39] See Suzanne Lalonde, *Determining Boundaries in a Conflicted World: The Role of* Uti Possidetis (Montreal and Kingston: McGill-Queen's University Press, 2002), 17. On maps and decolonization, see Raymond Craib, "Cartography and Decolonization," *Decolonizing the Map: Cartography from Colony to Nation* (Chicago: University of Chicago Press, 2017). For a discussion of the perceived universality of the *uti posseditis* principle with reference to South Asia, see Mohammad Shahabuddin, "Postcolonial Boundaries, International Law, and the Making of the Rohingya Crisis in Myanmar," *Asian Journal of International Law* 9 (2019): 334–58.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

other map, this sketch would "fix" the boundaries between land and sea in the dispute between the two states. The Radcliffe sketch was not a "map" drawn with attention to scale, but rather appendices to the Bengal Boundary Commission Reports, written by the group of judges and administrators tasked with carrying out the India and Pakistan territorial partition in 1947, including its riverine boundaries. Historians, including Joya Chatterji, Lucy Chester, and Willem van Schendel, have shown how these sketches were hurriedly and inaccurately drawn for the purposes of the Boundary Commission, because lawyers, judges, and administrators of the Commission did not have access to district maps at a scale appropriate for making these divisions accurately.[40] For example, Chatterji notes that in many cases, the Boundary Commission adopted the *thana* or the police station as the basic unit of partitioning, which differed from the revenue survey and land settlement maps that often accompanied colonial-era litigation, resulting in the legally ambiguous zones or "enclaves," fragments of India wholly surrounded by Bangladesh and vice-versa.[41] But barring a singular footnote to Chester's scholarship, the conditions prevalent during the making of these maps were not on the minds of the arbitrators when the maps were considered as evidence of international territorial boundaries.[42] Indeed, the governments presented the maps in two vastly different fashions, each claiming that its version was "authentic" and closer to contemporary reality. The Radcliffe sketch, uninterested as it was with maritime boundaries, nevertheless became central to the delimitation process at The Hague.

Elsewhere in the Bay of Bengal, visualizations—maps, revenue surveys, and nautical charts—helped establish exception to delimitation principles. Beginning in 1970s—as with South Talpatty and the India–Bangladesh maritime boundary dispute—the island of Katchatheevu in the Gulf of Mannar, uninhabited except as a resting place for fishers, became a recurring motif in maritime boundary disputes between India and Sri Lanka, a "test case" according to international relations scholar Urmila Phadnis, for whether India could protect its legal, economic, and security interests in the Indian Ocean.[43] Katchatheevu lay within a zone of long-contested sovereignty in the Palk Bay—just north of the Gulf of Mannar mentioned earlier—one over which both the British and Dutch colonial administrators of southeastern India and of the island of Ceylon had wrangled.[44]

[40] Joya Chatterji, *The Spoils of Partition: Bengal and India 1947-1967* (Cambridge: Cambridge University Press, 2011); Lucy P. Chester, *Borders and Conflict in South Asia: The Radcliffe Boundary Commission and the Partition of Punjab* (Manchester: Manchester University Press, 2017); Willem van Schendel, *A History of Bangladesh* (Cambridge: Cambridge University Press, 2009). See also Hannah Fitzpatrick, "The Space of the Courtroom and the Role of Geographical Evidence in the Punjab Boundary Commission Hearings, July 1947," *South Asia: Journal of South Asian Studies* 42 (2019): 188–207.

[41] Joya Chatterji, "The Fashioning of a Frontier: The Radcliffe Line and Bengal's Border Landscape, 1947–52," *Modern Asian Studies* 33 (1999): 185–242.

[42] William Thomas Worster, "The Frailties of Maps as Evidence in International Law," *Journal of International Dispute Settlement* 9 (2018): 570–89.

[43] Urmila Phadnis, "Kachchathivu: Background and Issues," *Economic and Political Weeklv* 3 (1968): 783, 785, 787–88.

[44] Markus P.M. Vink, "Church and State in Seventeenth-Century Colonial Asia: Dutch-Parava Relations in Southeast India in a Comparative Perspective," *Journal of Early Modern History* 4

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

By the end of the nineteenth century, British administrators had also proposed to widen the channel between the mainland and the island of Ceylon, recording for the purpose of the British Parliament in London the rocks, shoals, and sandbanks that lay just beneath the waters.[45] Maps, surveys, and inspection reports of the Gulf prepared for the Madras government and reprinted in Colonial-Era gazetteers were dredged up in support of the Indian government's claim over Katchatheevu.[46] Finally, a rail and steamer connection introduced in 1914 to transport laborers from the villages in southern India to the highlands of Ceylon to work on the tea plantations, at which point the Raja of Ramnad's claims to lease out the chank fisheries was once again raised, but then quickly set aside.[47] Although it was abolished after Indian independence in 1947 and even after the agreement designating the Gulf as "historic waters" in which typical maritime boundary rules do not apply, the specter of the Ramnad Zamindari's claim to the chank fisheries farther out to sea in the Gulf of Mannar—asserted as a right subsisting from "time immemorial"—hangs over this dispute.[48]

The post-independence maritime boundary disputes in the Bay of Bengal relied on two-dimensional visualizations of space in maps, sketches, and satellite images to "fix" lines in the ocean, even as rights to the marine and submarine resources—oil, natural gas, heavy metals, and fisheries that required a three-dimensional view—were at issue. This was reflected in the background provided in the memorials to the tribunal, which included not the only legal and diplomatic history of these disputes, but also the geography, geology, and geomorphology of the Bay of Bengal and peculiar concave nature of Bangladesh's coastline that rendered the usual methods of measuring maritime zones inequitable.[49] Precise measurements of land and sea, as Doss had noted in his nineteenth century lectures, would not satisfy the considerations of equity, and the two governments presented their cases based on different methods of determining the baselines from which maritime

(2000): 1–43 (discussing the shifting ecclesiastical and civil jurisdictional claims over the Paravas on the Coromandel coast).

[45] Sujit Sivasundaram, *Islanded: Britain, Sri Lanka, and the Bounds of an Indian Ocean Colony* (Chicago: University of Chicago Press, 2013), 79–81.

[46] See sketches in the annexures to W.C. Twynam, *Report on the Ceylon Pearl Fisheries* (Ceylon: Government Press, 1902). James Hornell, *Report of the Government of Madras on the Indian Pearl Fisheries in the Gulf of Mannar* (Ceylon: Government Press, 1905).

[47] On the rail link between India and Ceylon, see Ceylon Sessional Papers No. 41, Papers Relating to Through Communication by Rail between Ceylon and Southern India (1907), National Archives of Sri Lanka. On pearl fisheries in the Gulf of Mannar generally, see Tamara Fernando, "Seeing Like the Sea: A Multispecies History of the Ceylon Pearl Fishery 1800–1925," *Past and Present* 254 (2022): 127–60.

[48] W.T. Jayasinghe, *Kachchativu and the Maritime Boundary of Sri Lanka* (Pannipitiya: Stamford Lake, 2003), 29–30, 45. On the abolition of the Ramnad zamindari and its implications for India's maritime boundaries, see *AMVSSM and Company v. State of Madras* CMP No. 4229 of 1951 (Madras High Court). For ongoing litigation, see *M. Karunanidhi v. Union of India W.P.* (Civil) No. 430 of 2013.

[49] Memorial of Bangladesh, Volume I, Bay of Bengal Maritime Boundary Delimitation, 13–38. https://files.pca-cpa.org//pcadocs/bd-in/Bangladesh's%20Memorial%20Vol%20I.pdf (accessed September 17, 2022).

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

boundaries could be established. Drawing on the ruling in the *North Sea Continental Shelf* case decided by the International Court of Justice in 1969, Bangladesh claimed that the silt and sediment that formed the seabed of the Bay was carried by rivers flowing through Bangladesh, and that the geological makeup of its seabed, as presented in oceanographic evidence, was a "natural prolongation" of Bangladesh's land mass.[50] Although the peculiar nature of the Bay of Bengal was recognized during the drafting of the law of the sea conventions, neither at The Hague nor in its dispute with Myanmar at Hamburg was Bangladesh's characterization of the geological makeup of the Bay persuasive enough to carve out an exception to established principles of maritime boundary delimitation.[51] The tribunal's final award noted that the unstable coastlines and ephemeral features of the Bay were irrelevant to the final outcome of the case.

Underwater

Neither nineteenth-century English East India Company servants who became "commissioners" of the Sunderbans with privileges to collect tax from reclaimed land nor Cyril Radcliffe and the other members of the Bengal Boundary Commission visited the districts that would eventually constitute the international border between India and East Pakistan (later Bangladesh). On the other hand, in 2013, the arbitrators and agents of both Bangladesh and India visited the international riverine boundary between India and Bangladesh, making multiple trips to observe tidal rhythms, sand banks, and the presence or absence of South Talpatty/New Moore. When South Talpatty/New Moore could not be spotted, the government of India argued that the timing of the visit was off; had the arbitrators visited at a different time, they would have been able to see an "island" and not merely a legally insignificant "low-tide elevation," as South Talpatty/New Moore was ultimately deemed to be.[52] The international lawyer and jurist Payam

[50] Memorial of Bangladesh, Chapter 2. *North Sea Continental Shelf Cases* (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands), Judgment of February 20, 1969, International Court of Justice.

[51] Jin-Hyun Paik, "The Origin of the Principle of Natural Prolongation: North Sea Continental Shelf Cases Revisited," in *Law of the Sea, From Grotius to the International Tribunal for the Law of the Sea* (Leiden and Boston: Brill Nijhoff, 2015), 583–94.

[52] For the difference between an "island" and a "low-tide elevation," see Hira Jayewardene, *The Regime of Islands in International Law* (Dordrecht: Martinus Nijhoff, 1990), 3–7. Maritime boundary negotiations (between Myanmar and India) and disputes elsewhere in the Bay (between Bangladesh and Myanmar, and between Singapore and Malaysia) also considered the status of "islands"/low tide elevations. On the role of islands in land reclamation projects and its implications for maritime boundary disputes, see Jennifer Gaynor, "Liquid Territory, Shifting Sands: Property, Sovereignty, and Space in Southeast Asia's Tristate Maritime Boundary Zone," in *Blue Legalities: The Life and Laws of the Sea*, ed. Irus Braveran and E. Johnson (Durham: Duke University Press, 2020), 107–27.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

Akhavan who represented the government of Bangladesh as counsel before the tribunal noted:

> . . . the reality is that during the site visit, after many hours of flying and floating and straining to see something, anything, resembling an elevation, the best that India could offer were a few breakers and a great deal of muddy water. It is clear that the chart [referring to the charts supplied by India's hydrographic office] no longer represents physical reality. This is powerful testimony to the instability of the Bengal Delta. There can be no better example of why a base point selected on land is likely to be under water in the future.[53]

By 2014, when the arbitral tribunal had decided that South Talpatty/New Moore was insignificant for the final award, it had disappeared from satellite images as well.[54]

As states on the Bay's littoral in South and Southeast Asia grapple with unstable coastlines, rising sea levels, and the consequences of climate change, maps based on the geopolitical realities at the moment of decolonization will soon bear no resemblance to contemporary realities, as they did in this dispute.[55] Indeed, treating historical maps as "photographs of a territory" akin to satellite images today as persuasive legal evidence in law of the sea disputes may soon become unnecessary.[56] In August 2021, the leaders of the Pacific Island Forum including the small island nations like Kiribati, Tuvalu, and Samoa as well as Australia and New Zealand declared that they would not alter their maritime zones, update baselines, or change their entitlements as a result of climate-changed induced sea level rise.[57] But exploring the fragments from Colonial-Era litigation offers a way of thinking through the role of visualizations in delineating sea spaces in law, with attention to the historical context in which they were produced and the twin aims of conquest and commerce in aid of which they were produced. In navigating fixity and fluidity, equity and accuracy in law, seemingly insignificant places—uninhabited islands where fishers dried their nets after the day's catch or a densely forested shoal fashioned from the belly of a muddy river—were imbued with legal force, long after international conventions had demoted their importance and climate change had caused their edges to dissolve and disappear.[58]

---

[53] Transcript of Hearing on Merits, Arguments of the People's Republic of Bangladesh, Professor Payam Akhavan, 96. https://pcacases.com/web/sendAttach/388 (accessed September 17, 2022).

[54] Disappeared South Talpatti: What Next?" *The Daily Star*, April 24, 2010.

[55] Snjólaug Árnadóttir, "Fluctuating Boundaries in a Changing Marine Environment," *Leiden Journal of International Law* 34 (2021): 471–87.

[56] On maps as "photographs of a territory," see Burkina Faso/Mali, in ibid.

[57] Declaration on Preserving Maritime Zones in the Face of Climate Change-related Sea-Level Rise, August 6, 2021, https://www.forumsec.org/2021/08/11/declaration-on-preserving-maritime-zones-in-the-face-of-climate-change-related-sea-level-rise/ (accessed September 17, 2022).

[58] For a doctrinal legal approach to this question, see Julia Lisztwan, "Stability of Maritime Boundary Agreements," *The Yale Journal of International Law* 37 (2012): 153.

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press

Acknowledgments. Debjani Bhattacharyya and Tamara Fernando generously engaged with previous drafts of this essay. Ashwita Ambast offered critical comments on the nature of international arbitration. Antonia Moon shared her interest in landscapes of/in law and offered insights into uncatalogued collections at the British Library. A previous version appeared as "Temporary," in *Visualizing Climate and Loss* (2020), https://histecon.fas.harvard.edu/climate-loss/temporary/index.html, and in presentations at the InterAsia Academy, Social Science Research Council (2021), Writing Legal Lives: Histories of International Law, Center for History and Economics, Harvard University (2021), and Constructing Borders: A Barriers and Borders Workshop, Columbia University (2022). The author is grateful to the participants. Any errors and omissions are the author's.

Cite this article: Kalyani Ramnath, "Making Maritime Boundaries in the Bay of Bengal," *Law and History Review* 40 (2022): 561–578. https://doi.org/10.1017/S0738248022000396

https://doi.org/10.1017/S0738248022000396 Published online by Cambridge University Press