

BOOK REVIEWS

Frederico Freitas, <i>Nationalizing Nature: Iguazu Falls and National Parks at the Brazil–Argentina Border</i> By Maria Amuchastegui	579
Lachlan Fleetwood, <i>Science on the Roof of the World: Empire and the Remaking of the Himalaya</i> By Katherine Arnold	582
Grant Ramsey and Andreas De Block (eds), <i>The Dynamics of Science: Computational Frontiers in History and Philosophy of Science</i> By Tim Boon	584
Claire G. Jones, Alison E. Martin and Alexis Wolf (eds), <i>The Palgrave Handbook of Women and Science since 1660</i> By Grace Exley	586
Michel Morange, <i>The Black Box of Biology: A History of the Molecular Revolution</i> By Jean-Baptiste Grodwohl	588
Johan Alfredo Linthorst, <i>Research between Science, Society and Politics: The History and Scientific Development of Green Chemistry</i> By Matthew Holmes	589
Marco Tamborini, <i>The Architecture of Evolution: The Science of Form in Twentieth-Century Evolutionary Biology</i> By Tim Horder	591
Hannah Wills, Sadie Harrison, Erika Jones, Rebecca Martin and Farrah Lawrence-Mackey (eds.), <i>Women in the History of Science: A Sourcebook</i> By Sally Gregory Kohlstedt	593
Michelle DiMeo, <i>Lady Ranelagh: The Incomparable Life of Robert Boyle’s Sister</i> By Odile Manon Lehnen	595
Alida C. Metcalf, <i>Mapping an Atlantic World, circa 1500</i> By Benjamin B. Olshin	597
Nancy Rose Marshall (ed.), <i>Victorian Science and Imagery: Representation and Knowledge in Nineteenth-Century Visual Culture</i> By Greg Priest	598
Raf de Bont, <i>Nature’s Diplomats: Science, Internationalism, and Preservation, 1920–1960</i> By Peder Roberts	600
Ian M. Miller, <i>Fir and Empire: The Transformation of Forests in Early Modern China</i> By Hiroki Shin	602
Arie Rip, <i>Nanotechnology and Its Governance</i> By Massimiliano Simons	604
Simon Jarrett, <i>Those They Called Idiots: The Idea of the Disabled Mind from 1700 to the Present Day</i> By Svein Atle Skålevåg	605
Nina R. Gelbart, <i>Minerva’s French Sisters: Women of Science in Enlightenment France</i> By Tom Stammers	607
Christoph Irmscher, <i>The Poetics of Natural History</i> , 2nd edn By Lisa Winters	609

Frederico Freitas, *Nationalizing Nature: Iguazu Falls and National Parks at the Brazil–Argentina Border*

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Nationalizing Nature tells the tale of Argentina’s Iguazú National Park and Brazil’s Iguaçu National Park, each named after Iguazu Falls, a massive cataract eighty meters high

and 2.7 km wide. These mass tourist attractions began as destinations for moneyed elites. Each abuts an international border where Argentina, Brazil and Paraguay meet; each is in turn encircled by internal boundaries, dividing public from private space. Freitas contends that the parks – rhetorically construed as pristine natural spaces – are in fact products of human spatial practices and geopolitical forces.

In each park's history, contradictory goals – conservation, development and national security – alternately prevailed. From the 1930s, military and political goals prevailed. For the military, colonization by settlers helped secure borders against foreign incursions. For politicians, tourism infrastructure promoted economic development. The late 1960s witnessed a paradigm shift. Scientifically trained bureaucrats, influenced by international environmental-conservation norms, began to prevail. Settlers – previously encouraged to colonize the parks – were evicted by the Argentine and Brazilian military dictatorships.

Although primarily an environmental history, the book will resonate with historians of science: natural spaces – conceived as *terra nullius* – in fact result from human spatial practices. These range from environmental legislation and surveilling park borders to poaching jaguars and illegally harvesting heart-of-palm, a delicacy found in *juçara* palm trees. Freitas describes *grilagem*, private appropriation of public land with forged property titles, a widespread practice in Brazil, leading to vast swathes of Iguazu forest being cleared by settlers, many of whom later resisted resettlement. The military sometimes treated resisters as subversives. Freitas emphasizes tensions between local actors and nation-states. Although the state sometimes prevailed, local actors – such as armed henchmen guarding illegal logging operations – could prove more powerful.

Historians of science will also recognize the emphasis on local actors. In 1899 Argentine naturalist Carlos Burmeister found a sign in the area inscribed 'National Park, March 1897'. It was aspirational: no park existed. The sign had been posted by a Brazilian army captain stationed at a nearby outpost. A Brazilian, André Rebouças, first proposed a national park in 1876, four years after Yellowstone National Park's founding. He had visited Niagara Falls – another monumental, border-straddling cataract – and admired Yellowstone without having been there. To Rebouças, an engineer and an abolitionist, national parks represented progress and civilization. Similarly, in the first designs for the Argentine park, Charles Thays, a French-born architect living in Buenos Aires, proposed a rational, Cartesian park in the Parisian style.

By describing the transit of the practical expertise of creating parks to protect natural spaces, Freitas engages in discussions of circulation of scientific knowledge. In Argentina, many scientists responsible for national parks were European-born and -trained. The emphasis on North American and European influences may seemingly support dominant narratives of the circulation of knowledge, according to which scientific knowledge disseminates from the West to the Global South. But, Freitas emphasizes, neither Iguazú or Iguazu subscribed to the exclusionary model of Yellowstone – neither park initially prohibited settlement or poaching.

If extensive knowledge flowed between Argentine and Brazilian scientist-bureaucrats and their international colleagues, comparatively little flowed between Argentina and Brazil. In 1984, when Iguazú became a UNESCO world heritage site, Brazil bristled at the suggestion that Iguazu be lumped together with its Argentine counterpart. In 1986, Iguazu became a separate world heritage site. Despite being rhetorically construed as pristine nature, the parks were imbued with national symbolism. Brazil gazetted Iguazu in 1939, partly in response to Argentina's gazetting of Iguazú in 1934. Argentina's park

was initially larger, but Brazil expanded its park to nearly four times the size of Argentina's, to reflect 'Brazil's territorial greatness' (p. 91).

Freitas's use of 'nationalize' refers both to colonization of borderlands with Argentine or Brazilian nationals, and to appropriation of private land by nation states. Brazil nationalized the Iguazu border as part of President Getúlio Vargas's March to the West campaign. Vargas promoted a Manifest Destiny-like mission to conquer the hinterland. In Argentina's case, both its flagship national parks – including Nahuel Huapí, bordering Chile – encompassed disputed borderlands. The military encouraged settlement to secure the border. Argentina's national-park legislation stipulated that settlers be Argentine-born. Brazilian officials, in turn, fretted that the main languages spoken at the border were Spanish and Guaraní. They referred to Guaraní-speaking workers as 'Paraguayans', although many were likely Brazilian or Argentine. The exclusion of Guaraní-speaking workers from Brazil's or Argentina's definitions of the ideal settler suggests – though Freitas does not make this argument – that border nationalization efforts had racial overtones. Mara Dicenta, discussing Tierra del Fuego, argues that the introduction of Canadian beavers followed a Darwinian logic and reflected a desire to 'whiten' the natural environment. Freitas describes Argentina stocking Nahuel Huapí, in the snowy south, with Canadian moose and European deer. Even the animals may have contributed to the racially charged nationalization of borderlands.

Canadian moose and European deer share a provenance in the loci of modernity. A recurring motif in Latin American thought is the association of modernity – equated with economic development and scientific progress – with Europe and North America. The equation between modernity and the Global North and the argument that national parks are manifestations of modernity originate with the historical actors. But environmental science challenges associations between modernity and development. The tension between environmental conservation and economic development, which recurs throughout the book, reflects these differing definitions of modernity.

The flipside of equating modernity with Europe is equating barbarism with non-Europeans. Freitas's account of non-Europeans is tantalizing, but not as detailed as his account of other groups. Debt-bonded indigenous and mixed-race peoples – many of them Guaraní speakers – provided most of the labour to build the parks' infrastructure, and for logging operations. However, the Brazilian government sought to delegitimize Guaraní speakers by denying their indigenous heritage. Freitas cites a Guaraní elder, Almeida, who reports that some Guaraní people once lived in what would become Iguazu National Park. According to Almeida, the Guaraní were forcibly expelled, or their bodies thrown into the falls. Freitas adds that no written record exists. However, using aerial photographs, he identifies several sites that could be investigated by archaeologists for traces of the Guaraní.

The final chapter analyses aerial photographs of the Iguazu Forest, and the real protagonist comes to the fore. As Freitas observes, assuming that the great national parks of the era were created to protect biodiversity is anachronistic; the notion emerged only in the 1980s. Rather, these parks were established to protect natural monuments. But although both Iguazú and Iguazu are named after a monument – the eponymous waterfall – they mostly contain two kinds of subtropical forest: Upper Paraná Atlantic forest and Araucaria moist forest. These forests, and the biodiversity they support, are the current focus of the scientist-bureaucrats administering the parks. Much has been written about Amazonian deforestation. Between August 2003 and August 2004, a Belgium-sized area was cleared. Freitas extends this analysis to the Iguazu subtropical forest, which is also being cleared at an alarming rate.

Historians of science are increasingly interested in the history of the Global South. Freitas's book matters, not only because it describes the circulation of knowledge in a way that is inclusive of the Global South, but also because it shows how the conduct of science in the Global South affects the planet.

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Lachlan Fleetwood, *Science on the Roof of the World: Empire and the Remaking of the Himalaya*

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In the first half of the nineteenth century, the largely uncharted and unfamiliar vertiginous landscapes of the Himalaya posed an unprecedented challenge to naturalists in Europe. This striking and now highly celebrated mountain range became a critical site that tested the limits of European instruments, bodies and knowledges, symbolizing both an increasing anxiety about East India Company control in South Asia and a greater insecurity about the 'blank spaces' at the edges of the British Empire. At the same time, the Himalaya became essential to the emergence of a 'vertical globe', a framework that reveals how naturalists and surveyors began to interpret the world both three-dimensionally and globally. Comparisons to the high peaks of the Alps and Andes, however, did not always result in the successful production of scientific knowledge about the mountain range. Lachlan Fleetwood's important new monograph skillfully reveals the uneven and contested process of mapping the Himalaya and shows how it was made commensurable within a 'new global scientific and imperial order' (p. 1).

Science on the Roof of the World is organized into six thematic chapters focusing on different scientific practices that fitted the Himalaya into supposedly 'universal' categories. The chapters are centred around case studies on altitude measurement, the (in-)efficiency of scientific instruments, altitude sickness, geology, botany and the then emerging field of biogeography. Rather than arranging his study chronologically or by the Himalaya's diverse geographical segments, Fleetwood, through this approach, presents some of the ways in which natural history and measurement contributed to new conceptualizations of mountain environments in the age of empire. The narrative is bookended by a strong historiographical introduction and a concluding epilogue on the atlases generated from the *in situ* observations of the book's European and indigenous protagonists. The atlases encapsulate Fleetwood's main arguments: they 'flattened the nuances of local observations' and disregarded the 'sheer laboriousness of doing science in the Himalaya', ultimately absorbing them into 'a broader story of global verticality' (pp. 5, 243).

Several lines of argumentation run through the book. First, Fleetwood rightly advocates for further decentring spaces of science, best exemplified through the 'northern' Saharanpur and Mussoorie botanic gardens. With its 'tropical' climate and considerable