## History of Science in South Asia



Minakshi Menon (ed.), Indigenous Knowledges and Colonial Sciences in South Asia (South Asian History and Culture, special issue, vol. 13, n. 1, 2022)

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# History of Science in South Asia

A journal for the history of all forms of scientific thought and action, ancient and modern, in all regions of South Asia

# Book Review: Minakshi Menon (ed.), *Indigenous Knowledges and Colonial Sciences in South Asia*

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## Book Review: Minakshi Menon (ed.), *Indigenous Knowledges and Colonial Sciences in South Asia*

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This collection of seven essays draws on source material from north and south India to contribute to the interdisciplinary analysis of the cultures of science in colonial South Asia. It departs from much work on empire and science by placing the analysis of language at the center of its concerns. Although cognizant of the important historiography on the "epistemic break" presented by colonialism, the questions animating the collection, as a whole, focus less on the ruptures of colonial modernity and more on the unstudied transformations of local sciences from perspectives internal to those epistemic traditions. As a result, methodologically, it draws less from the current tendency to emphasize global-scale circulations and instead affirms the importance of applying close textual analysis to multilingual archives of vernacular print culture. It may be read profitably alongside similar work in South Asian studies that qualifies earlier, more emphatic theses about colonial knowledge.<sup>1</sup>

Menon's introduction knits together recent work on the history of science and indigenous knowledge in South Asia in order to situate the sources and arguments of each essay. It underlines the importance of appreciating science as a historically contingent category which may signify a broad swathe of practices and ideas. This helps position the objects of analysis in this collection: discourses that emerge at the intersection of Sanskritic knowledge traditions and the emergent disciplines of the European natural sciences from the eighteenth century to the near present. Arguing for a more careful characterization of "shastric modernity," it notes the "shastric imaginary" as an intellectual resource and a set

<sup>1</sup> Hakala 2016.

of tools for making knowledge in the sciences persisted well into the twentieth century (6). It also argues, following recent work by Indologists, that the appropriate method and disciplinary location of this work is "philology," defined as "a form of *virtuoso* reading, methodical, self-aware, and performed *in public*" (2).

Although the six research essays are arranged topically (two on astral sciences; two on natural sciences (chemistry, botany); two on medicine), one might also have grouped them by their primary methodological orientation, on either side of the uneven seam between cultural history and the history of ideas. In her incisive study of mathematical astronomy (*jyotihshastra*), Plofker reveals the intercalated quality of *jyotihshastra*, comprised as it was of several strands of astral sciences, Vedic, Hellenic, Perso-Arabic, and Latin in provenance. Moreover, she argues that colonial education did not reject Sanskrit astral science; rather (31),

it was arguably the colonial eagerness to remove its longstanding adaptations to coexistence with foreign views, in the name of re-establishing a lost intellectual purity, that contributed to its destruction.

Menon and Cerulli also deftly navigate textual analysis to suggest new readings of, respectively, the orientalist William Jones, and Ayurvedic pedagogy in Kerala. In a study of two essays on identifying the "Indian Spikenard," Menon reads Jones's philological botany as an instance of grounding philology locally, in local plant narratives, as a method more amenable to furthering commercial projects of imperial botany than the cultural elisions of Linnean taxonomy. Jones is able to correctly associate classical plant descriptions with plants in the world because he relies on a range of Asian texts and interlocutors and an exacting method of "philological empiricism" (97). Cerulli's work with physician-educators in central Kerala reflects on the value and limits of philology as an analytical category through which to categorize the textual work that takes place in the *gurukula*. Cerulli reads both the meaning of philology and of the work of his interlocutors with sensitivity to the dialogical encounter between textual hermeneutics and clinical practice. The pedagogical and healing practices of these clinician-exegetes defy easy categorization as even the face-to-face instruction typical of the master-disciple relationship redefines itself in light of changing clinical contexts. Cerulli draws our attention to the generative, clinical impact of inter-generational training in textual exegesis and application, and the ever-new quality of Ayurveda in situ that arises thereby.

The remaining essays by Singh, Guenzi, and Pecchia, lean closer to cultural history. Pecchia displays impressive skills in paleography to trace the biography of an object, the first printed edition of the *Carakasaṃhitā*, from its birth as an annotated manuscript prepared by Gangadhar Rai Kaviraj (1798–1885) to its print-

ing in 1868/9. Pecchia demonstrates that local values of manuscript culture, including exegetical authority, markers of class, and belonging to a professional community of vaids, modulated the speed with which Ayurveda print materials were accepted. Singh's essay, very mindful of the politics of language, peers underneath the surface of stories of linguistic nationalism to construct an archaeology of scientific translation at the Nagari Paracharini Sabha. Her analysis of the Hindi Scientific Glossary (1906) and its attendant Chemical Terminology (1901) emphasizes the work of "intra-vernacular" translation that seemed to "upend the language hierarchies instituted between English, Sanskrit and the vernaculars"(73). Like Singh, Guenzi's attends to the changing meaning of scientific authority within vernacular-language science pedagogy. Assessing why astrology (*jyotisha*) continues to be taught at Indian universities, Guenzi illustrates that the cultural authority of astrology cannot be divorced from its larger location within a political economy reliant on the ritual life cycle of Brahminical Hinduism, and thereby reveals the centrality, and limits of, arguments of utility in grounding science pedagogy.

This collection as a whole draws on a range of multilingual archives to illustrate how Indian scholar-scientists engaged with colonial state pedagogy in ways that cannot be captured by arguments drawing upon official publications. It qualifies earlier studies of colonial knowledge by overcoming standard binaries of impact and reception, and by often centering vernacular social imaginaries. The conceptual framework for this qualification might have been sharper had it been alloyed with an explicit analysis of the idea of the Indic that is occasionally presupposed here. Although the introduction briefly acknowledges the importance of examining the Persianate legacies of pre-colonial India, its ready identification of pre-modern science with "shastric knowledge forms" underlines the importance of exploring how work on the late medieval and early modern world might problematize pure genealogies of Sanskritic forms of knowledge.<sup>2</sup> Historians of empire would likely expect a more critical reading of philology as a disciplinary practice. After all, philology, like ethnology and phrenology, was so embedded in the racialization of Asia that to denude it of that context of production, and to think of it only as a form of public close reading, however highly skilled, seems incongruous with the emphasis on historical specificity otherwise evinced here. It seems to conflate a discourse that co-constituted British control over South Asia with an ostensibly politically neutral method by which to explain it.<sup>3</sup> Nonetheless, one must admire the deep archival reading seen in these individual essays. In their collective insistence on incorporating textual analysis into histories of science and empire they suggest new historical arcs elided by

2018; Gandhi 2020. 3 See Kapila 2007.

<sup>2</sup> As suggested by Pfloker's contribution to this volume. Also see: Flood 2009; Wujastyk 2009; Moin 2012; Truschke 2016; Speziale

earlier historiography and address questions in the history of knowledge that cannot be captured by global-scale histories alone.

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