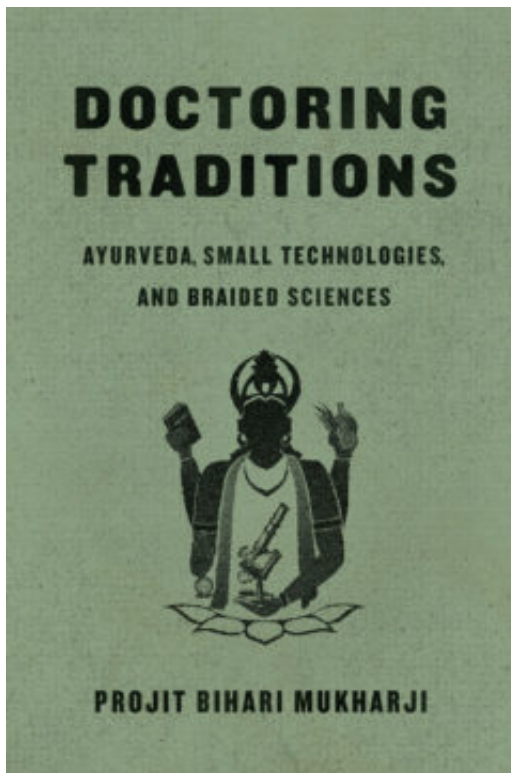


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## Projit Bihari Mukharji's Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences

2018-05-03 09:10:05

By Marshall Kramer



[Doctoring Traditions: Ayurveda,  
Small Technologies, and Braided Sciences](#)

[Projit Bihari Mukharji](#)

University of Chicago Press, 2016. 376 pages.

In a sequel to his 2009 *Nationalizing the Body*, Projit Bihari Mukharji returns to late-colonial South Asia to investigate the modernization of Ayurvedic science and medicine in *Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences*. This time, Mukharji plunges the reader into a workshop-like world where a diverse cast of medicine practitioners and producers engage in tinkering with small technologies, bodies, and scientific traditions. The outcome of their work is not only an

“Ayurvedic technomodernity” but what Mukharji terms a “braiding” (pp.26-27) of different strands of South Asian and European sciences; of mechanistic and vitalistic thought; and even of technology and spirituality. Weaving stories of their efforts together with rich accounts of literature, film, and scientific debates from the time, Mukharji immerses the reader a world of experimentation, imagination, and therapeutic practice in a monograph that abounds with curiosity. The result is not only a powerful example of the insights that can be acquired from a globally-situated history of science and technology, but also a compelling case for approaching modernization as a socio-technological process of craft.

At the center of the book are small technologies from pocket watches to microscopes to glass bottles. Tracking the modernization of Ayurveda through these well-known commodities, Mukharji elaborates how each became a locus for dialogues across scientific traditions, serving as a “go-between” or “catalyst” in the modernizing process of reimagining the body. The result is not a singular image of a modern body, but rather series of combinable “physiograms” or “partial, plural and translucent body metaphors” (p.8) that reoccur across the creative efforts of physicians.

Looking at the incorporation of pocket watches into Ayurvedic pulse taking practices (*nadipariksha*), Chapter 2 follows how physicians came to imagine a “clockwork body” (p.115)—a simultaneously mechanic and vital body which entwined the watchmaker analogy of William Paley’s natural theology with diverse interpretations of *nadis* (channels) and *prokritis* (temperaments) from Ayurvedic texts (pp.88-9, 97). In Chapter 3, the reader is shown how thermometers played a key role in developing the image of a “reticulate body” of “seemingly hydraulic” circulatory networks, as physicians drew together different understandings of heat and fevers with electromagnetically-inflected visions of nervous systems and *snayus* (pathways, pp.149-156). While microscopes remained beyond the reach of many physicians, Chapter 4 traces how physicians embraced the form of vision these tools promised, braiding Victorian and South Asian understandings together to envision worms (*krimi*), germs, and *doshic* (humoral) cells (pp.169, 180). The physiogram that emerges from their varied engagements with microscopes is a “chiaroscuric body” where the working of maladies and life are obscured by an “interplay of light and dark, visibility and opacity” that future technologies might expose, and that great seers are alleged to have seen with their enhanced *dibyodrishti* vision (pp.186-7, 190). Finally, in Chapter 5 Mukharji tracks how the image of an endocrino-chakric machine—a circulatory body regulated by a plurality of hormonal organs-cum-chakric centers—arouse out of dialogues surrounding organotherpaies (the injection of hormonal materials) in the early 20<sup>th</sup> Century.

While the modern body that emerges from these physiograms often appears distinctly mechanistic, Mukharji is attentive to how these images retained and incorporated vitalistic and spiritual elements drawn from South Asian and European traditions alike. By following these seemingly antithetical motifs of mechanism and vitalism, electro-magnetism and endocrinology as they evolved with the circulation and consumption of small technologies (p.115), the book offers a strikingly detailed and innovative approach to a global history of science. Instead of discovering “epistemic alterities” in modern Ayurveda (p.31), this technological history of global sciences points to a broader transition taking place in the process of modernization: the reworking of pre-modern “pataphysical” (*pace* Jarry 1996) traditions, which embraced exceptions and sought to “extrapolate a science of the singular,” into an all-encompassing, metaphysical science where the world is understood in relations between universals and particulars, “regularity and [broadly applicable] explanations” (p.286).

Where Jarry’s pataphysics is often associated with imaginative turn-of-the-century art movements like surrealism, absurdism and Dada (*cf.* Hugill 2012), Mukharji’s use of this framework to describe Ayurveda and other premodern sciences (pp.270,282) draws attention to a shift taking place in the form of scientific creativity and innovation during this period. Premodern Ayurveda was a “deliberately inexact” science of exceptions and singularities (p.285) in which physicians could imagine therapeutics that offered varied forms of “superhuman” augmentation (pp.271-2) or “the innate power of certain sounds” to heal (pp.264). Ayurveda’s modernization into more universal, physiogram-based therapeutics came with the increasing prostheticization of imagination—that is, as more and more physicians took to thinking and innovating through technologies and technological metaphors (pp.283-6).

The modernization of medicine, then, is not reducible to a process of making traditions into sciences. Rather, modernization is as a process of dialogue, tinkering, and creative (re)combination that develops around small technologies—a process which generates shared schematic or “meta-material” (*pace* Alter 2004) understandings of the world and bodies, even as it produces a diversity of interpretations, inventions, and new practices (pp.218, 285). Crucially, it is through technologies—often mundane, mass-produced technologies—that bodily processes and sciences alike are reimaged, rebuilt, and reworked in modernity’s workshop.

This process of craft and creativity is not without its political and economic preconditions, and Mukharji is careful to observe how the schematization of Ayurveda reflects both its biopoliticization for the modern state and its commercial pharmaceuticalization under late colonialism (pp.244-250, 284-5). While such arguments have a familiar ring, Mukharji’s study is

original in how it focuses the reader's attention on the figure of the crafting professional: in this case, the Bhaidya-bourgeois physician turned pharmacist.

Compared with more common figures of modernization histories like the laboratory expert or the factory worker, the bourgeois physician that emerges in Mukharji's study is a uniquely avid consumer of, and public commentator on, new technologies. As Mukharji elaborates in Chapter 1, the development of this profession is enmeshed in a process of negotiating a Bhaidya brahmin caste identity wherein participation in colonial scientific education, religious interpretation, and middle-class consumption are all part of the struggle "for social power, status, and legibility" as Bhaidya-bourgeois physicians (p.75).

In a final set of physiograms in Chapter 6, Mukharji returns to this figure of the Bhaidya-bourgeois physician to track how modernization has brought about their transformation into pharmacists. Where the physician's body and person had previously been lauded for its enhanced perceptual diagnostic abilities akin to a maestro who could bring forth melodies out of patients' instrument-like bodies, as these Bhaidya physicians tinkered in modernity's workshop they gradually came to reimagine their bodies as drug-creating pharmaceutical technologies, uniquely capable of spotting and procuring valuable medicines like a master gem-collector (pp.250-254). As he follows this transformation, Mukharji highlights the development of a uniquely craft-oriented (or maybe 'craftsy') bourgeois figure for whom practice has become increasingly fetishized as the ability to creatively collect, reimagine, and manipulate technologies in the production of quality commodities. In this sense, craft is far from lost in modernity and Mukharji offers a brilliant outline of the modernization of professionals into a distinctly creative bourgeois class of consumer-producers, one which resonates today with such middle-class figures as DIY (do it yourself) "hipsters," IT professionals and programmers, and the growing diversity of professional technicians.

The book is recommended for professors, graduate students, researchers, and professionals in the fields of history, sociology, anthropology and science studies, as well as those with an interest in medicine, science, technology, colonialism, or cultural studies. While the text is rich in theoretical interventions and ethnographic details drawn from the South Asian context, it is well connected to global themes and written in lively enough style to be used in excerpts for an advanced undergraduate course or enjoyed by those with a keen interest in any of the above fields.

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### AMA citation

Kramer M. Projit Bihari Mukharji's Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences. *Somatosphere*. 2018. Available at: <http://somatosphere.net/?p=14411>. Accessed May 3, 2018.

### APA citation

Kramer, Marshall. (2018). *Projit Bihari Mukharji's Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences*. Retrieved May 3, 2018, from Somatosphere Web site: <http://somatosphere.net/?p=14411>

### Chicago citation

Kramer, Marshall. 2018. Projit Bihari Mukharji's Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences. Somatosphere. <http://somatosphere.net/?p=14411> (accessed May 3, 2018).

### Harvard citation

Kramer, M 2018, *Projit Bihari Mukharji's Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences*, Somatosphere. Retrieved May 3, 2018, from <<http://somatosphere.net/?p=14411>>

### MLA citation

Kramer, Marshall. "Projit Bihari Mukharji's Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences." 3 May. 2018. Somatosphere. Accessed 3 May. 2018.<<http://somatosphere.net/?p=14411>>