

and camels were introduced to Australia. The human cost of these enterprises in Indigenous societies is often forgotten, and the social implications of these disruptions had not been completely explored. For instance, this reader would have liked to see in this book a fuller discussion of the motivations of South American Indigenous communities that resisted the removal of camelids from their ecosystem (175–176). Similarly, the book does not contain an examination of the instrumental value of Indigenous shepherds (234). As the post-colonial postmodern world re-examines relationships between animals and humans, scholars have focused on important individuals and prized animals from a Euro-centric perspective. This may be a limitation of the archives that scholars like Stephenson use or of the audiences they imagine.

Pushkar Sohoni

Pushkar Sohoni works at the Indian Institute of Science Education and Research (IISER) Pune. He is an architectural and cultural historian, and his research interests include archaeology, animal studies, numismatics, and sociolinguistics. His most recent book is Taming the Oriental Bazaar: Architecture of the Market-Halls of Colonial India (Routledge, 2023).

Robyn d'Avignon. *A Ritual Geology: Gold and Subterranean Knowledge in West Africa.*

328 pp., illus., notes, bibl., index. Durham: Duke University Press, 2022. \$27.95 (paper); ISBN 9781478018476. Cloth and e-book available.

Robyn d'Avignon, a scholar with broad interests in the history of natural resource governance and scientific research, has written a pathbreaking book that will be of interest not only to an academic audience but also to a broader public one. *A Ritual Geology: Gold and Subterranean Knowledge in West Africa* is an impressive piece of scholarship that provides readers with a refreshing approach to African histories of science and technology. The book centers on African epistemologies and ontologies as they relate to the underground, mining, and geology. In doing so, the book provides an innovative decolonial framework that decenters traditional narratives about, for instance, twentieth and “twenty-first-century scramble[s] for Africa’s resources.” Focusing on Senegal, Burkina Faso, Côte d’Ivoire, Guinea, and Mali, d’Avignon uses historical, archaeological, and ethnographic data to reconstruct the history of ritual geology, “a set of practices, prohibitions, and cosmological engagements with the earth that are widely shared and cultivated across a regional geological formation” (5).

D’Avignon sheds light on what might seem obvious but is often made invisible in many histories of science on Africa: the historical continuities and relevance of local knowledge and ontologies in the modeling of technical, social, and economic aspects of the practices historians examine.

A Ritual Geology thus opens up new avenues for research of West African ontologies of the underground while demonstrating the central role that West African mining techniques had in the geological exploration in the Sahel. Through the analysis of *orpaillage*, the book gives visibility to the *orpailleurs* and *orpaillieuses*, local knowledge and technology that had remained obscured in narratives about mining explorations of the region until now. The author provides several examples of how this process ensued, but one fascinating one explains how West Africans also incorporated botanical knowledge into the cosmological rituals that guide gold prospecting. Several tree species were used as indicators to find gold, such as *Kigelia africana* (known in Maninka as *congouroun* and *boure*).

Francophone West Africa’s *orpaillage* or gold panning is one of the world’s oldest Indigenous gold mining industries. Its techniques, knowledge, practices, and technology are foregrounded and elevated in this book. There is a growing and significant literature on the contribution of non-Euro-American experts to the construction of knowledge and technology in the Atlantic World and Colonial Africa. Although by now there is an abundance of literature on the technology and practices of African healers, assistants, and other local agents engaging in botany, ethnobotany, ethnography, and others, the same cannot be said about

the production of knowledge on “ritual geology.” The “contact zones,” as defined by Mary Louis Pratt in her book *Imperial Eyes*, where cross-culture encounters took place, allowed for the collaboration between African experts and British technicians, as funding was deficient for scientific research in colonial Africa, so they had to rely on local knowledge. In this way, it was possible to develop insights into geology through “the techniques, political and ritual institutions, and skilled labor of West African *orpailleurs*” (109). D’Avignon argues that in the case of British Africa, if the African assistants “shaped the epistemology of the field sciences in Colonial Africa” an even more compelling “case could be made for geology in French Africa” (109). Nonetheless, it is also important to mention the violence underlying the theme of African geology. There are some examples such as the “brutalizing labor of digging exploration trenches” on African men; the equipment, tents, and provisions carried by porters; or the forced work that Africans performed (112). In addition, the resilience of the *orpailleurs* through generations is remarkable, and chapter 6 focuses on the “rights” of the *orpailleurs* and their fights. D’Avignon places the word “rights” in quotes because of its illegality, such as the case of Senegal that “was untenable to eliminate the primary source of income for some of the country’s poorest citizens” (152). D’Avignon’s writing is a pleasure to read, very clear, and well organized. Her personal view while doing fieldwork enriches this pathbreaking book.

Sara Albuquerque

Sara Albuquerque is a researcher in history of science at IHC University of Évora IN2PAST. She is principal investigator of the KNOW.AFRICA Project: Knowledge Networks in 19th Century Africa and of W.Box.Project: Ward’s Box as a Pedagogical Object in the Dissemination of the History of Science. She is an honorary research associate (RBG, Kew) and a fellow of the Linnean Society of London.

Recent

Andrew Simon. *Media of the Masses: Cassette Culture in Modern Egypt.* xiii+ 304 pp., illus., notes, bibl., index. Stanford, CA: Stanford University Press, 2022. US\$30 (paper); ISBN 9781503631441. Cloth and e-book available.

You know it: the compact cassette was (and is) a standard sound recording format that spooled magnetic tape in miniature, protected it with plastic casing, and made it possible for so many in the late-twentieth century to record, manipulate, play back, and distribute sound. Circulation could be decentralized, as low-cost information carriers were passed hand-to-hand and were easily mailed across borders. Many of these celebrated affordances of this format were crucial for Egyptian cassette culture, but here tape history ran a different course, as Andrew Simon shows with *Media of the Masses: Cassette Culture in Modern Egypt*. Though he does not always explicitly place his cultural historical work in dialogue with it, he joins a robust interdisciplinary conversation that has turned commonsense assumptions about these once ubiquitous objects upside down, as in, for example, the likes of Aleksandra Kremer (*The Sound of Modern Polish Poetry* [Harvard, 2021]), Cait McKinney (*Information Activism* [Duke, 2020]), and David Novak (*Japanese* [Duke, 2013]). In short, after you read this book, you will know the cassette differently.

Simon makes a call to “rethink the sorts of sounds [explored] in Middle East Studies” (182) away from state-sponsored elite culture, by way of writing what he calls a “biography of one technology” (2). To attend to “life and leisure in the shadow of empires” (185), he focuses on a material culture that is both utilitarian and suffused with desire, positioning tapes against state-controlled media so that he may shine light on the everyday experience of Egypt’s economic opening. Simon’s historical analysis is, thus, positioned squarely in area studies with secondary investments in the history of sound recording technology and, to a certain extent, sound studies. As a result, *Media of the Masses* implicitly critiques that the contours of cassettes’ global