

The Lived Nile: Environment, Disease, and Material Colonial Economy in Egypt. Jennifer L. Derr, (Stanford, CA: Stanford University Press, 2019). Pp. 255. \$26.00 paper. ISBN: 9781503609655

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The Lived Nile is an ambitious book that traces how the environmental transformations resulting from attempts to control and restrain the river's millennia-old cycle of seasonal flooding were an integral part of economic and social change during the 19th and early 20th centuries. This flood-based system supported a wide variety of crops, but those that flourished in the summer, particularly cotton and sugarcane, were of greatest interest to the dictates of capital production. These crops were not replanted from year to year and had to be watered with laborious irrigation techniques from the receded Nile. Canal and dam building increased the availability of irrigation water, creating areas of perennial irrigation and intensifying these crops' cultivation, which gradually encroached on the silt-rich, basin-irrigated regions of the flood. As the Nile's waters sluiced through the new colonial-era dam at Aswan (precursor to the Aswan High Dam), it filled expanding canal networks that redefined geographies, privileged new forms of expertise, and nurtured creatures that thrived in the landscape of perennial irrigation. Jennifer Derr conceptualizes the Nile as "not an always, already constituted singular entity but a realm of practice and a set of temporally, spatially, and materially specific relations that helped to structure experiences of colonial economy" (p. 3). This approach avoids the pitfalls of simplistic materialism or environmental determinism. On the contrary, it enables her to shed new light on a history dominated by an emphasis on the colonial economy of cotton and its social and economic impacts by placing environmental change and its multiple intersections with knowledge production, authority, capital, and human bodies at the core of her narrative.

The first two chapters contrast how practices of Nile management changed due to the construction of Khazan Aswan, the first Nile dam, in 1902. Drawing on Alan Mikhail's *Nature and Empire in Ottoman Egypt*, but extending the timeframe beyond the rule of Mehmed 'Ali, Chapter 1 examines the production of irrigation expertise before the dam, with particular emphasis on its relation to the science of engineering. Derr provides an incisive critique of narratives that elevate British expertise and discount or ignore local knowledge. Egypt's formal, institutionalized training in engineering at the Muhandiskhanah in Cairo, similar to that of the French École Polytechnique, developed in tandem with efforts to expand perennial irrigation. Britain largely lacked such institutions—aspiring British engineers primarily gained formal training in colonial institutions in India. Lacking expertise about the Nile, their training in its particularities relied on the frameworks and "Nile vernacular" of local farming communities (p. 29). Despite this reliance, as they learned the intricacies of river management, they used their newfound knowledge to promote themselves as experts while dismissing the expertise of their Egyptian colleagues. A comparison of two works published in the same year—one by the former Egyptian minister 'Ali Mubarak and the other by the British engineer William Willcocks—underscores the different degrees of access afforded to such texts—only the one penned by Willcocks found a broad international audience "thereby obtaining an imperial advantage as a performance of expertise" (p. 32).

Derr asserts that the tables turned with the completion of the first Aswan Dam in 1902 as Egyptian engineers were now "learn[ing] a Nile produced by the British" (p. 57). Then again, so were the British—at the dam itself, this new Nile posed a major challenge to the engineers' design, creating a flow that cut into the riverbed and led to a major stabilization effort. Meanwhile, downstream it produced a variegated "landscape of value" as Delta land irrigated with new canals made possible by the dam grew in value relative to lands in the south that continued to be basin irrigated (p. 57). Rising land values elicited calls for more irrigation and in 1912, the dam was raised and repaired, further deepening the disparities in this landscape. As British engineers struggled to master this new Nile, control over its waters also became a critical component of nationalist demands and imaginaries. Egyptian technocrats produced texts promoting these imaginaries by narrating British engineers' contributions within a much longer history of Nile engineering projects. The emphasis on these works' performative value, like those of

Mubarak and Willcocks, is instructive, raising questions for further exploration regarding what other practical or imaginary purposes they may have served.

Examining developments in capital investment in central and southern Egypt during this same timeframe enables Derr to trace how differing forms of irrigation reconfigured farmers' relationship to the land. In this region dominated by sugar production where basin irrigation still prevailed but perennial irrigation could be found in pockets owned by wealthy investors, she argues that the Sugar Company's operation "blurred" the boundaries between state and private interests (p. 97). The arrival of quasi-independence in 1923 did not fundamentally change the relations of production. Drawing on Rob Nixon's concept of "slow violence," or "everyday forms of mundane violence" (p. 8), she details how oppressive authority, whether exercised by foreign or Cairene elites, maintained the poverty that characterized workers' lives.

In the book's final section, Derr turns the lens of "slow violence" on the diseases that proliferated with perennial irrigation and the efforts undertaken to address them. In an innovative analysis that incorporates sources from the Rockefeller Foundation archives and detailed accounts of parasite life cycles, she delves into how the more intensive labor necessitated by cotton cultivation and the greater contact with Nile water required by perennial irrigation impacted people's bodies. These practices "produced new normative bodies, scarred by the ecologies of colonial economy" (p. 125)—a claim supported by graphic descriptions of the ravages wrought by various diseases. However, far from recognizing the connections between perennial irrigation and disease, as incidents of schistosomiasis, hookworm, and pellagra increased, colonial officials reached the ahistorical conclusion that their proliferation demonstrated the endemicity of these diseases, particularly schistosomiasis.

As these endemically diseased bodies became an increasing matter of concern for productivity-minded landowners and industrialists, rural workers found themselves the objects of public health campaigns and the subjects of experimentation. Programs undertaken by the Public Health Department focused on improving hygiene by building latrines, eradicating snails, raising awareness through symptom-depicting posters, and administering treatments involving multiple painful injections. Anecdotal evidence points to rural communities' skeptical response to these efforts, suggesting fertile terrain for further research into how farmers experienced and made sense of the new forms of subjectivity these interventions and their slow violence inflicted.

Derr returns to the topic of expertise production in detailing efforts to develop treatments. Egyptian experts, particularly Muhammad Khalil, director of the Bilharzia Research Section and professor at King Fu'ad University, could more easily approach rural communities to study these diseases even as the discipline sidelined their knowledge in the global sphere. Using field studies, they established a link between these diseases and perennial irrigation, refuting the ahistorical endemicity pushed by colonial scientists. Nonetheless, their marginalization meant that some foreign experts disregarded their knowledge only to take extreme measures and reach similar conclusions decades later. In one instance, Claude Barlow, a Rockefeller scientist sent on a mission to Egypt to study parasitic disease, insisted "he does his best work when he does not previously read the literature" (p. 143). Later, lacking an alternative means to bring a sample for study to the United States, he would resort to infecting himself.

The Lived Nile is a welcome addition to the rapidly growing literature addressing the environmental history of the Middle East and one of the first books to focus on the late 19th and early 20th centuries. Richly sourced, the book draws on documentation from British, Egyptian, and French archives as well as the records of the Rockefeller Center and the World Health Organization. The inclusion of numerous images and photographs illustrate not only the immensity of the boulders from which the dam was built, but also disease symptoms as illustrated by educational posters, and the objectification of farmers photographed while receiving injections. Of interest to those working on environmental history, histories of capitalism and colonial economy, as well as medicine and disease, the book's length and accessible style also make it suitable for upper-level undergraduate seminars or graduate classes.