

Book and Media Reviews

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From King Cane to the Last Sugar Mill: Agricultural Technology and the Making of Hawai'i's Premier Crop, by C Allan Jones and Robert V Osgood. Honolulu: University of Hawai'i Press, 2015. ISBN 978-0-8248-4000-6, xvi + 228 pages, notes, literature cited, index. Cloth, US\$45.00.

From King Cane to the Last Sugar Mill is a thorough interdisciplinary analysis of the agricultural technology used to cultivate sugarcane in the Hawaiian Islands, starting with the plant's earliest cultivation by Polynesian settlers circa AD 500 and ending with the last remaining sugar company on the island of Maui in 2014. C Allan Jones and Robert V Osgood balance a detailed discussion of the technological advancements of the sugar industry with the broader social, political, and economic contexts that underpin the rise and fall of the industry in Hawai'i. As agricultural scientists who worked for the Hawaiian Sugar Planters' Association, Jones and Osgood offer expert analysis of the industry's technology and methods over time, discussing sugarcane varieties, irrigation infrastructure, plantation labor systems, fertilizers, and means of pest control. They argue that economic pressures forced the industry to reduce labor costs and implement technologies that increased production efficiency, resulting in the Hawaiian sugar industry's rise as the most mechanized in the world. Further, they trace the decline of the industry over the past forty years, arguing that advanced technology, in the form of drip irrigation and new disease resistant varieties, allowed

the last remaining sugar mill to survive into the twenty-first century.

Jones and Osgood begin in chapter 1 by describing the indigenous agricultural infrastructure in conjunction with Hawaiian political organization prior to the arrival of Westerners in the eighteenth century. With the emergence of the first commercial sugar company in the late 1830s, the California gold rush, the US Civil War, and the decline of the whaling industry incentivized expansion of large-scale sugarcane cultivation. Due to the passing of the Reciprocity Treaty of 1876, the Hawaiian sugar industry boomed, increasing production twenty-fold between 1876 and 1896. During this time, sugar companies in Hawai'i led the industry with ditch-irrigation technology, steam-powered machinery, and new fertilizers. Nearing the turn of the nineteenth century, powerful political interests, including prominent sugar industry leaders, staged a coup in 1893 to stabilize the sugar industry's political and economic situation, overthrowing the Hawaiian monarchy and setting the stage for annexation later in 1898.

As chapters 3 and 4 describe, the industry continued to grow rapidly during the period before the Great Depression and despite the Depression era's low sugar prices due to improvements in irrigation infrastructure, hybrid varieties of sugarcane, and mechanized field and factory operations that reduced the need for labor. In light of major labor unrest and strikes by Japanese and Filipino workers, the industry continued to implement technology that increased production efficiencies, relying less

on field and factory hands. The same reliance on workforce-reducing technological advancements by the industry continued through the World War II era. The book ends by tracing the decline of the industry, starting in 1970, due to unstable domestic and international sugar prices. Unable to reduce production costs to meet the low market prices, and struggling to diversify crop productions, all but one commercial sugar company closed between 1970 and 2011. In 2014, the Hawaiian Commercial and Sugar Company (HC&S) faced legal challenges headed by water rights and environmental activists.

A significant contribution to the interdisciplinary niche historicizing scientific progression in the agricultural industry in Hawai'i, this book offers a highly detailed documentation and synthesis of technological history, both organizing and characterizing the progression of technology across multiple eras. Jones and Osgood demonstrate a masterful conversion of the archive of scientific company records into cohesive historical narrative. The primary strength and value of their work lies in the application of their scientific expertise to describe how agricultural technology evolved.

Secondarily, Jones and Osgood historicize the role of agricultural technology in the sugar industry by offering argumentative commentary on the interplay between economic, political, and social discourses in Hawai'i. These claims, however, are limited, and intentionally so. The authors preface their work by demarcating the extent of their scholarly intervention, stating: "As agricul-

tural scientists, our emphasis is on the technological and scientific advances that allowed Hawai'i's sugar industry to be among the world's leaders throughout most of the twentieth century" (xiv). They acknowledge further, however, that they would be remiss if they did not note the enormous societal and environmental changes caused by the "sugar industry's aggressive search for labor, land, and water resources" (xiv).

Jones and Osgood carefully argue that labor and economic pressures necessitated the industry's technological advancement to increase production efficiency. With technology at the center of their analytical frame, they argue that technological progression was both a result of external pressures and a causal factor in the survival of the industry into the twenty-first century. As a reader I question the limitations of their framing and the way it places the industry and its technology in a causal position. I am left wondering precisely who the historical players were that implemented the technology and how this proved consequential.

This discussion of technological power and its interconnectedness with political, economic, and social power invites new questions to the field. How does a technology-centered analysis reframe the way the Hawaiian sugar industry is historicized? This framework holds potential for further scholarly work albeit a slippery mode of analysis that risks historicizing technology in the place of historical players. Despite a general lack of grounding in broader conversations of historicizing the industry, the book does offer subtle nods to the ethical

undertones of the industry's workings, especially in the political power amassed by leaders of the industry, the most salient example being the overthrow of the Hawaiian monarchy in 1893. In the end, the book's lack of engagement with broader historically bound questions is secondary to the work's stated intent, which is to offer an analysis and presentation of the industry's technological progression from the nineteenth century to the present, examining the role of this advancement in relation to the industry's evolution.

Overall, Jones and Osgood contribute a detailed account that recounts the scientific and technological progression of the Hawaiian sugar industry at a depth otherwise not easily accessible by scholars outside of scientific disciplines. As such, the book fills a niche of scholarship seeking to historicize science, simultaneously inviting new questions that interrogate the role of technology in the hands of major historical players. With the Hawaiian Commercial and Sugar Company announcing at the beginning of 2016 their intention to halt sugar operations, the history of the industry in Hawai'i has come to an end. In light of this, *From King Cane to the Last Sugar Mill* holds immense value in its longitudinal recounting and examination of the technological workings of an industry that played a tremendous role in shaping contemporary Hawai'i.

A KAIPO T MATSUMOTO
Harvard University

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Southern Cook Islands Customary Law, History and Society: Akapapa'anga, Kōrero Tupuna, e te Ākono'anga Ture 'Enua o te Pā 'Enua Tonga o te Kūki 'Airani, by Ron Crocombe and Ross Holmes, 2014. Three volumes, in English and Cook Islands Māori. Auckland: Ross Holmes; Rarotonga: The Cook Islands Library and Museum Society Incorporated. ISBN vol 1 978-0-9441068-0-3, vol 2 978-0-9441068-1-0, vol 3 978-0-9441068-2-7; 1,182 pages, illustrations, facsimiles, figures, glossary, bibliography. Cloth, NZ\$150.00.

Resulting from a posthumous collaboration, as explained in Marjorie Crocombe's preface, the three massive volumes of *Southern Cook Islands Customary Law, History and Society* synthesize Ron Crocombe's prior publications on Cook Islands culture and society as recontextualized and expanded on by Ross Holmes. A barrister and solicitor whose practice includes the High Courts of New Zealand and the Cook Islands Privy Council, Holmes provides commentary on archival materials and perspectives not available to Crocombe at the time of his groundbreaking work on land tenure and law in the Cook Islands in the 1960s. Holmes also provides the framing device across the volumes: the need to document and support the legal standing of Cook Islands cultural practice and social organization as "custom." Somewhere along the way the project appears to have been transformed by the possibility that if custom has substance in law, then every historically attested ethnographic or social fact may be relevant