

In the second phase, the Atacama fed the curiosity of early scientific expeditions, which relied heavily on cartography. Mapmakers depicted the desert to conform to their political leanings before drawing physical or scientific maps. Furthermore, naturalists began to study the resources and natural history of the region, which led to mining towns as well as further scientific studies.

Nationalists in nineteenth-century Chile embraced the Atacama Desert for its economic potential in the third transformation. In the aftermath of independence movements, investors in mining and port-building saw the desert as a gateway to resource extraction.

Lastly, the Atacama emerged as “exceptional,” a term the author uses to note how tourists and scientists alike have emphasized the unique character of the desert. Whereas Europeans once portrayed the desert as barren, the Atacama of the twentieth century included bustling mining, agrarian, and tourism centers.

Among the strengths of this book are its images, which leap off the glossy pages. In particular, the author demonstrates his cartographic background with a careful analysis of each map, noting not only place names but also topographical features and political significance. He includes cultural artifacts, such as poems, to note how the desert changed in meaning and significance to different groups of people over time. Photographs taken by himself or his son, Damien, offer a personal touch, bringing the desert closer to the reader.

Despite these strengths, there are two areas that the book could have developed more. While the introduction does lay out the book’s understanding of the term “imagining,” a more thorough discussion would have raised questions, such as: Whose imagination is it? Is it a product of European eyes? Do the indigenous play a role? These questions are parsed in the chapters, but an analysis at the beginning would have situated the concept further. Likewise, the book discusses

scientists and naturalists of the nineteenth and twentieth centuries but alludes all too briefly to their modern-day parallels—astronomers.

The greatest strength of this book is its appeal to many audiences. It is a volume that is both academic and accessible. Inquisitive readers will delight in the discussion of mining and geology while enjoying the poetry and art inspired by the desert. Students and a diverse group of readers will find interest in this book as it traces the desert through maps and the stories they tell.

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James L. Fairchild and David T. Robinson. *John W. Searles: California Mining Pioneer*. Tona, CA: Searles Valley Historical Society, 2018; 206 pp., 36 color and 50 b&w illus., 13 color and 6 b&w maps, 4 tables, chapter ref., paper, \$29.95. ISBN: 9781729695029

This detailed biography is scrupulously researched, rigorously referenced, and well-written, shedding light on an under-appreciated subchapter of California mining history. The authors are a uniquely qualified pair: Robinson is a Searles family descendant with access to unpublished family documents, while Fairchild has lived and worked at Searles Lake for over half a century.

Many MHA members will identify the name “Searles” with the briny treasure house of saline minerals in the California desert formerly known as Slate Range Playa or Borax Lake, but now known as Searles Salt Marsh, or more commonly, “Searles Lake.” This is one of those cases where the person is important because of the place.

William Manley—who, with his companion John Rogers, was the savior of the Bennett-Arcane party stranded in Death Valley in late 1849—was one of several early travelers who passed by this brine body, tortured by thirst in the nearly waterless region. Manley recorded of their epic trek to

Los Angeles that they found the Searles Lake water “to be a wine color, and so strongly alkaline as to be slippery to the touch.”

Those “slippery” brines failed to slake Manley’s thirst, but subsequently have produced major riches in the form of sodium carbonate, sodium sulfate, common salt, and several borate products. In addition, the brines contain huge, but currently sub-economic, quantities of potassium, lithium, and even tungsten.

John Searles (1828-97) was the first person to exploit borates on an industrial scale from the lakebed in the 1870s, and was probably the first to identify borax (and tincal) there, in the 1860s. This book highlights his career, with its many tortuous stages prior to his involvement with California borates.

A native of upstate New York farming country, he moved to California in 1852. He and his brother Dennis farmed in rural, northwestern Trinity County, during which time they witnessed placer mining for gold near their properties. Following legal and title problems, the brothers departed the area in 1858.

By 1860, John and Dennis had transferred their energies from the lush, forested mountains of Trinity County to the barren Slate Range in the desolate Death Valley region, focused on mining silver. Initial success there turned into eventual bankruptcy, and reduction to modest circumstances for the brothers.

The Searles brothers were able to turn their silver-mining “lemon” into “sweet lemonade” due to the serendipitous proximity of Searles Lake to the Slate Range mines. During the 1860s John’s attention was drawn to the presence of borax in the surficial salt crust on the lakebed, and by 1873 the brothers were producing 38 percent of the total U.S. borax output, this increasing to 53 percent by 1876.

After the death of Dennis, John controlled the San Bernardino Borax Mining Company, which continued production through 1895, as-

suming his fortune. During this period, John Searles developed the legendary “twenty-mule-team” borax wagons, to haul product to the railhead at Mojave, California.

John W. Searles retired in 1895 to Napa County, where he died in 1897, aged 69. The book recounts his descendants, as well as side-lights of his career in California, including his dealings with Native Americans and his near-death adventures with a grizzly bear in the Tehachapi Mountains.

Even a work as well-executed as this has some room for improvements. First, the text would flow more smoothly if much of the detailed genealogy dating back to 1645 in New York were placed in an Appendix. While this information is of great interest to the Searles family itself, it is less pressing for readers seeking information about John W. Searles himself or California mining history. Second, a brief technical chapter on Searles Lake’s origins and chemistry would be of inestimable value in placing this marvelous chemical storehouse in context within California mining history. Author Fairchild, a long-time chemical company employee and resident of the Searles Valley, is in a unique position to do this in a subsequent edition.

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Kristin Ranestad. *Knowledge-Based Growth in Natural Resource Intensive Economies: Mining, Knowledge Development and Innovation in Norway 1860-1940*. Cham, Switzerland: Palgrave Macmillan (Palgrave Studies in Economic History), 2018; 299 pp., notes, ref., 6 append., ind., cloth \$119, eBook \$89. ISBN: 978-3-319-96411-9 cloth; 978-3-319-96412-6 eBook.

Kristin Ranestad’s book is noteworthy for its methodology, as well as its substance. Unknowingly, she aligns herself with Charles Tilly’s call for comparative research covering long periods