

Modern

Gordon Fraser. *Star Territory: Printing the Universe in Nineteenth-Century America.* (Material Texts.) 264 pp., illus., tables, bibl., index. Philadelphia: University of Pennsylvania Press, 2021. \$39.95 (cloth); ISBN 9780812252927. E-book available.

In the early spring of 2023, NASA announced the members of its *Artemis II* mission, the first since 1972 to fly human beings back to the Moon. As promised, the four astronauts include one woman and one person of color, on whose shoulders the burden now rests to diversify the public face of the U.S. space program. Their charge resounds from the mission's stark, sleek promotional posters, which subtly replace the *Apollo* era's "for all mankind" with "for all humanity."

Although it aims for inclusivity, this updated humanitarian slogan wraps space travel as deliberately as its predecessor in a cloak of moral righteousness. The work is arguably harder in this "NewSpace" age, when the ideology needs to conceal not only political jockeying and military escalation, but also the burgeoning corporate effort to monetize the cosmos. *Artemis's* stated goals to establish a "permanent presence on the Moon" and ease the way to Mars are in large measure dependent not only on privately built rockets and lunar landers, but also on those space mining companies that will extract water from the Moon and eventually metal from asteroids, all under the watchful eye of the newly minted Space Force.

As historians tend to recount it, the present drama begins in 1957 with the Soviet launch of *Sputnik*. Eisenhower declares that outer space will provide "the position of total control over Earth"; JFK promises American victory will ensure freedom "for all mankind"; *Apollo 8* orbits the Moon; *Apollo 11* plants a flag in it; and now with the advent of private companies like SpaceX, Blue Origin, and a sudden host of heavenly extractors, space is finally open for business.

For Gordon Fraser, the only significant problem with this story is that it starts too late. In his always careful, often surprising, argumentatively unassailable *Star Territory*, Fraser proclaims that "US efforts to exploit the cosmos have a . . . history that dates to the founding of the United States itself" (p. 2). According to Fraser, the early nation's patriotic astronomical predictions and lofty symbolics of planets and stars came down to earth in the nineteenth century, when U.S. agents commissioned a veritable flood of "printed almanacs, charts, maps, and even star charts" (p. 22). These astronomically grounded materials "enabled surveying operations; ocean, coastal, and river navigation; farming; and military planning" as the nation careened toward civil war on the one hand and a gold-studded western frontier on the other (p. 22). All told, then, the twenty-first-century United States "is in the midst of its third space age" (p. 1). The first dates back, not to 1957 when the USSR beat the United States to space, but rather to the dawn of the nineteenth century, when "agents of the United States sought to instrumentalize the universe" (p. 158).

A work of magisterial historiography, *Star Territory* operates bicamerally to reveal nineteenth-century astronomical efforts to shore up U.S. power alongside counterefforts to undermine or redirect it. The book takes its title from Henry David Thoreau, who rightly feared that the ecologically destructive, human-displacing, profit-driven Westward Expansion would not stop at California. "I know that there are many stars," wrote Thoreau, "but what are they all worth? They are more waste land in the West,—star territory,—to be made slave States, perchance, if we colonize them" (cited on p. 3). In Fraser's words, what Thoreau feared was that "a settler state ready to expand slavery to Texas would as readily expand slavery to the moon and stars" (p. 104). And indeed, Elon Musk has recently suggested that anyone who can't afford the eventual \$200,000 ticket to Mars could relocate there as an indentured servant. But as Fraser insists, "the tools of astronomy and measurement" are "instrumental to the projection of space power *and* to its unsettlement" (p. 4). Anyone who seeks to unsettle the effort to conquer the cosmos for capital would therefore do well to consider its historical opponents.

For this reason, even as Fraser narrates in exquisite detail the patriotic, military, and economic deployment of cosmic know-how in the nineteenth century, he also unveils numerous sites of resistance. Fraser

brings the reader into the annals of the *Cherokee Phoenix* (1828–1834), “the first newspaper published by an indigenous nation in North America,” which printed astronomical calculations and speculations to ensure successful farming, pass on Indigenous cosmology, and criticize the settler-colonial state. He walks us through the works and lore of Benjamin Banneker, a Black nineteenth-century astronomer who both served U.S. nationalism and challenged its pretensions, warmongering, and “scientific” racisms. He finds in Black abolitionist newspapers “an emancipatory theory of the cosmos” that not only allowed enslaved people to find true north but also revealed the astronomical impermanence of even the most stalwart of empires (p. 52). And he finds in the overthrown Hawaiian monarch Lili’uokalani’s translation of the Kumulipo a political protest anchored in a cosmological kinship of “people and plants and earth and sky” (p. 157).

Considering the book’s framing in this “third space age”—when military and economic interests assist one another, jockey for priority, and relegate scientific priorities to an afterthought—Fraser’s analysis leaves this reader wondering where we might find such cosmically grounded protests and counternarratives in the contemporary world. It seems unfair to mark the absence of such contemporary counternarratives in *Star Territory*, whose treatment of the nineteenth century is both luminous and exhaustive. But it should be in any event emboldening for the emerging anticolonial space movement to know, not only that its fears are rightly founded, but also that its hopes have such rich, multifarious, and powerful ancestors.

Mary-Jane Rubenstein

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Anna Harris; Tom Rice. *Stethoscope: The Making of a Medical Icon.* 224 pp., illus, bibl., index. London: Reaktion Books, 2022. £20 (cloth); ISBN 9781789146332. E-book available.

Stethoscope is a broad-ranging history of the stethoscope, from its beginnings in the early nineteenth century to its symbolic status in modern-day medicine. Anna Harris and Tom Rice draw upon anthropological fieldwork in hospitals in London, Australia, and the Netherlands to consider the “past, present and future of an instrument close to our hearts” (p. 7). Beyond this fieldwork, Harris and Rice explore a variety of sources to discuss the development and dissemination of the stethoscope, from historical medical textbooks to literature and conceptual art.

Chapter 1, “Revelation,” on the early history of the instrument, is a useful overview of the stethoscope’s development, addressing the facts as well as the historical mythology surrounding French physician René Laennec’s 1816 invention. Chapter 2, “Rise,” will particularly interest historians of science and medicine interested in epistemological perspectives, as the authors discuss the spread of stethoscopic technology in the nineteenth century, including local and national variations. Edinburgh, with its strong emphasis on clinical training and pathological anatomy, is noted to have been a center of enthusiastic experiment. In Bengal, the stethoscope complemented Ayurvedic practices such as pulse examination and—as it was not replacing existing methods, as was the case in Europe with immediate auscultation—the instrument was readily integrated into Bengali medical practice. For me the most interesting sections were Chapters 4 and 7, on “Routine” and “Improvisation,” respectively. In the former, there is a fascinating discussion of the nonmedical uses of the stethoscope by mechanics, soldiers, miners, and plumbers. In the latter, adaptation and innovation in the Global South, and the potential of 3D printing for expanding availability of the instrument, bring the book up to the present day.

Historians of science may find themselves frustrated that there are not more in-depth forays into key historiographical debates such as the supposed conflict between patient narratives and medical technologies,